AMERICAN ANNALS

OF

The Deaf,

Organ of the Convention of American Instructors of the Deaf,

EDITED BY

EDWARD ALLEN FAY

UNDER THE DIRECTION OF

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Committee of the Conference of Superintendents and Principals of American Schools for the Deaf.

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THE DAVIDSON SCHOOL

Of Individual Instruction

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AMERICAN ANNALS OF THE DEAF.

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NOVEMBER, 1916.

CERTAIN ACCEPTED ELEMENTS OF A COURSE OF STUDY.

I. THE FIVE-SLATE SYSTEM OF TEACHING LANGUAGE.

WHEN I became a supervising teacher, I accepted the "five-slate system" of teaching the deaf for the very simple reason that I found this system in existence. While I was not an advocate of the theory that "whatever is, is right," I did feel reasonably sure that what existed in the course of study of practically every good school for the deaf in America could not be radically wrong; so, in the words of a fisher friend, "I swallowed the five-slate system, hook, bob, and sinker." Without hesitation I recommended that oral as well as manual teachers of beginning and other primary classes should develop language principles as laid down by Miss Katherine E. Barry in her most interesting book on the "Five-Slate System."*

As time went on, my childlike faith in the five-slate, or five-column, system became disturbed. Incidents occurred which made me skeptical as to the beneficence which follows the use of this system. Some of the attacks on my faith, together with the effects thereof, I shall record in chronological order.

*Katherine E. Barry, "The Five-Slate System. A System of Objective Language Teaching." Washington, D. C.: The Volta Bureau.

1. In letter writing or other composition on ordinary paper I found many of the pupils spaced their words as if they were using the five slates, or columns; for example:

Jacob	put	some large books	on	the table.
Hannah	fell		over	a chair.

To prevent the recurrence of mistakes of this nature, I advised teachers to use the five columns only in the introduction of new language principles or in the correction of mistakes in language forms with which the children were already familiar.

2. There was a sad lack of uniformity among teachers in the use of the five columns in asking questions.

I instructed teachers not to apply the five-slate system in the introduction or use of interrogative forms.

3. The separation in the columns, or slates, of the preposition from its object destroyed the unity of the phrase and seriously interfered with proper grouping of words in oral work.

I urged teachers to follow the example of David Greene, of the Lexington Avenue School, and Noble B. McKee, of the Indiana School, who, more than thirty years ago, combined the fourth and fifth columns, or slates, so as to present the preposition and its object as a unit.

4. No two teachers could ever agree as to the best way in which compound, complex, and elliptical sentences could be distributed fairly, squarely, and honestly among the various columns, or slates.

After a careful study of the sixth and seventh chapters of Miss Barry's book, I told our teachers that there was no use in trying; they could not do it. Even with the addition of the sixth column (which bears no logical relation to the original five) the system does not provide for the expression of such sentences in conformity with the rules of any known book on grammar. In the

Educator for February, 1894, F. W. Booth advised teachers not to follow the five-slate system literally as presented by Miss Barry. A moment's reflection upon the laws of probability convinces one that Mr. Booth, supposedly a very serious-minded man, occasionally becomes most delightfully facetious.

5. I found that teachers, in the main unconsciously, were adjusting their language work to meet the requirements of the five-slate system rather than to meet the immediate requirements of the child. Idiomatic and other expressions, which the child needed, were overlooked or postponed, because they did not fit readily into the five-slate system.

6. I learned from observation in a number of schoolrooms that pupils who had been taught speech materially in advance of writing could learn to write English fully as accurately without the five-slate system as with it, and could progress much more rapidly.

My change of opinion in regard to the five-slate system has been based upon my own experience and observation during the past ten years. While from year to year I have attached less and less value to the five slates or columns as an effective device for teaching language, my interest in the history of the system has materially increased. In fact, I am convinced that some knowledge of the use of the five-slate system in the past will lead to its more judicious use in the future.

The five slate, or column, system of teaching language has been in use at various times for more than one hundred years.

At the Fifth Convention of American Instructors of the Deaf, in 1858, Harvey P. Peet read a paper from which I make the following extract:

"The Theory of Ciphers, by which Sicard distinguished the parts of a proposition, must be admitted to be a valuable invention. It consisted, as most if not all of you know, in placing the figure 1 over the

subject of the proposition, 2 over the predicate, 3 over the direct object, 4 over the preposition, and 5 over the regimen of the preposition; as:

1	2	3	4	5
Albert	struck	the table	with	a rod."

At the Second Convention of American Instructors of the Deaf, in 1851, Laurent Clerc read a paper in which he illustrated the "Theory of Ciphers" as follows:

1	2	3	4	5
Nominative case.	*Verb.*	*Objective case.*	*Preposition.*	*Object of preposition.*
I	see	a bird	on	a tree.
He	gave	a book	to	the boy.
She	received	a letter	from	her mother.
A man	went		to	the city.
A woman	came		from	market.
We	walk		with	our pupils.
They	put	their books	on	the table.
		etc., etc.		

It would seem as if vertical lines between the columns were not regarded by either Sicard or Clerc as an essential part of this grammatical device; but we know that, in all human probability, from the very beginning such lines must have been drawn to separate the columns when the slate was small or the writing crowded or irregular. However that may have been, we know that in all essentials the five-slate, or five-column, system was developed more than a century ago and that nearly one hundred years ago Laurent Clerc began using it in the United States.

You will note that Dr. Peet in the paper above mentioned spoke of Sicard's invention as a matter of common knowledge among American teachers of the deaf. Thomas MacIntire attended the Fifth Convention and was present the day that Dr. Peet read his paper. The five-slate system was introduced into the Indiana School by Dr. MacIntire not later than 1879. At some time between 1879 and 1882 Dr. MacIntire intro-

duced the system into the Michigan School. From the Michigan School the five-slate system was carried to the Pennsylvania Institution, at Mt. Airy, and thence, once more, it spread to schools in all parts of the country.

Without question the five slate, or column, system was known in schools for the deaf in all parts of the country fifty or sixty years ago; yet so completely had it lapsed into disuse that in May, 1893, when Miss Barry's first article first appeared in the *Educator*, the great majority of the teachers of the deaf supposed she had evolved a new device or system, whereas she had only revived an old one which had done years of service in France before Thomas Hopkins Gallaudet extended its activities to the new world.

The reader who has followed me patiently to this point may very naturally ask:

1. If the five column, or slate, system was widely known as "a valuable invention," why did it practically cease to exist as an effective agency in teaching the deaf?

2. Why should this system have gained general acceptance after so long a period of disuse?

The first question seems easier to answer than the second.

As introduced into America by Gallaudet, the method of instructing the deaf was decidedly manual, or silent. Speech and lip-reading at best in the early days at Hartford and elsewhere played a subordinate part. The sign language was recognized as playing a vital part in the development of ideas; and expression in the vernacular was by means of writing or spelling on the fingers rather than by word of mouth. Even so late as 1882 we find A. L. E. Crouter advocating the free use of the sign language in the schoolroom, stating

that "we should be sorry to class ourselves among those who would banish signs from the class-room—to our mind they are the surest, readiest, and best means of reaching the darkened understandings of our pupils—but at the same time we do not forget that language is the greatest result to be attained in all our instructions." (Proceedings of the Tenth Convention of American Instructors of the Deaf, pp. 141–142.) At the First Convention, in 1850, David E. Bartlett expressed the general view of educators of the deaf, as follows: "To teach the deaf-mute a perfect knowledge of written language is to develop that mind to the utmost. *To educate the deaf and dumb is to teach them language.*"

Since 1882, Dr. Crouter and other great educators have changed their views in regard to methods and ends in the education of the deaf; but even later than this date we find the sign language was regarded, in many quarters, as having a high educational value in and out of the schoolroom, and excellence in written language was the chief aim in American schools for the deaf. The sign language being regarded as the vernacular of the deaf, the methods of instructing them were based largely upon the current methods of teaching a foreign language to a hearing person.

Following the example of Sicard, with some happy limitations, the method first employed in American schools for the deaf was what was known as the grammatical, or scientific, method. By means of the sign language the deaf were taught the meaning of classes of words; then written sentences were developed in logical order, not primarily to express thought, but to illustrate grammatical principles. When these principles were thoroughly learned the written work of the deaf ceased to be grammatical exercises and became lan-

guage. The sign language being grammarless, the five-column or some other grammatical device was deemed necessary by Sicard, Clerc, and others, when the deaf attempted to express their ideas in written language.

If the reader thinks I have stated the case unfairly, let him read Laurent Clerc's exposition of his own work as presented at the Second Convention of American Instructors of the Deaf; also Isaac Lewis Peet's comments on methods in 1871 in the *Annals*, vol. xvi, pp. 69–97.

Evidence that teachers of great ability defended the scientific method may be obtained by reading articles in the *Annals* by the following writers: Storrs, vol. xxv, pp. 105–119, 233–250; vol. xxvi, 86–90; E. Booth, vol. xxv, pp. 126–134; Wing, vol. xxx, pp. 188–203.

In some schools no such grammatical scaffolding was deemed necessary; in others, as in the Hartford and New York schools, symbols, diagrams, etc., displaced the five-column system. As a result, in a comparatively short time, the five-column system was taken from the schoolroom and retired to the sacred archives of the various schools for the deaf throughout the country. I have often thought that the safest place to hide things of this nature from a teacher of the deaf would be between the leaves of the reports of the proceedings of conferences, conventions, and other gatherings wherein our greatest educators have endeavored to make public their best thoughts.

Unable to hold its own among the advocates of the scientific, or grammatical, method, the five-column system found even less sympathy from the progressive element of the profession, who advocated wholly, or with slight modification, the natural method of teaching

the deaf. W. W. Turner, David E. Bartlett, M. L. Brock, Samuel Porter, E. A. Fay, W. H. Latham, H. S. Gillet, and B. D. Pettengill made unanswerable protests against the absurdities of the grammatical, or scientific, method of teaching the deaf. The wise words of these eminent educators should be treasured by every teacher of the deaf.* These men prove conclusively that a knowledge of grammar, or structural rules, plays no necessary part in learning the rudiments of a language; nay, more, that in the beginning these are only distracting elements. I accept these views as exceedingly comforting, because they were expressed at a time when the sign language was used by every person mentioned, when signs were accepted as an educational necessity, at least, under certain conditions; at a time when grammatical expedients, rules, and regulations, to many, seemed necessary to counteract the influence of the sign language upon the written English of the deaf.

The ten years from 1886 to 1896 formed a most important epoch in the history of the education of the deaf in America. In July, 1886, Edward Miner Gallaudet, who had already thrown his powerful influence against the unrestricted use of signs, wrote the famous California Resolutions to the effect that every deaf child should have an opportunity to learn to speak and to

*See the *Annals* as follows: W. W. Turner, "Course of Instruction," vol. ii, pp. 97–105; David E. Bartlett, "The Acquisition of Language," vol. iii, pp. 83–92; M. L. Brock, "A Better Method of Instructing a Class of Beginners," vol. xiii, pp. 206–217; Samuel Porter, "Instruction of the Deaf and Dumb in Grammar," vol. xiv, pp. 30–48; E. A. Fay, "Acquisition of Language by Deaf-Mutes," vol. xiv, pp. 193–204; W. H. Latham, "Difficulties Connected with Deaf-Mute Instruction," vol. xv, pp. 104–111; H. S. Gillet, "Language," vol. xv, pp. 232–244; B. D. Pettengill, "The Instruction of the Deaf and Dumb," vol. xvii, pp. 21–23, and "The Acquisition of Written Language," vol. xix, pp. 230–237.

read the lips. It was being demonstrated at the Rochester School and elsewhere that the deaf could be educated without the use of the sign language. Alexander Graham Bell founded the American Association and through it and other agencies affected the views of many teachers, as well as the opinions of the general public. The good work of the Clarke School and of other oral schools was receiving general recognition. The Pennsylvania Institution was developing into the largest oral school for the deaf in the world. The *Annals* and the *Educator* teemed with excellent articles which showed the alertness of teachers in all parts of the country. All of these agencies and activities worked, directly or indirectly, toward the restriction of the sign language, the extended use of English, whether written or spelled on the fingers, and the promotion of the oral method of teaching the deaf.

It was in this period that the five-slate system arose from its long sleep and began to take its place in the course of study of schools for the deaf throughout the country.

Some one discovered that this system, instead of being used as intended by its inventor, could be utilized in a scheme for teaching written English without the aid of the sign language; that (if the teacher chooses her words carefully and abstains from idioms) the system permits the child to write the sentence in its natural order; also that the system presented "the sentence with all its parts in visible relationship."

For its sponsor the rejuvenated five-slate system had F. W. Booth, a very intellectual man, who too often attributed to children and to us ordinary teachers the logical processes of his own brain. The chief exponent of the method was Miss Katherine E. Barry, a most brilliant, entertaining, and versatile teacher. The

system was made public at the Pennsylvania School, the center of attraction of those engaged in teaching the deaf the world over. No method, system, or device could be brought before the public under more favorable conditions.

When we remember that many of the world's greatest men have "inherited their politics and married their religion," we can understand why leaders of our profession, as well as some of us lesser lights, should have accepted the five-slate system without waiting for an expert accountant to take stock of its educational value. It took some of us a long time to appreciate the fact that, while seemingly alive, alert, and energetic, the teacher by using the five-slate system can waste more time, do more mechanical work, and avoid more original thinking than by using almost any other method or device in teaching the deaf. And the worst of it is, the teacher may honestly think she is original and progressive.

The five-slate system permits of a considerable degree of activity and interest on the part of the pupils while the teacher pursues a course which, at best, can only be classed as a modified form of the old grammatical, or scientific, method. The modification consists of the omission of the sign language. The five-slate system, as exhibited by Miss Barry, is a remarkable case of atavism in methods of instruction. Calmly ignoring all recent progress in language teaching, this system reverts to the formalism of Sicard, Clerc, and other early adherents of the grammatical method.

Miss Barry's introduction to the "Five-Slate System" reads in part as follows: "This system, designed to introduce the fundamental principles of language simply to the minds of young children, is based upon the theory that a deaf child needs and should be given such a

knowledge of primary analysis as will enable him to understand the mutual relation and dependence of the different elements in a sentence—as we believe that the possession of such knowledge tends to *clearness of thought*, the first requisite sought in preparing the pupil for independent action."

The following quotation is from Mr. Booth's preface to the same book: "The system must present language to the sight, and all the relations of language must be seen in the visible relation of visible symbols. Written and printed words are visible symbols of language. It remains only to render *the relations of words also visible* to make a system of language-teaching adapted to the necessities of the deaf. The five-slate system presented in these lessons does this."

Here we have in the words of the chief exponent and the chief sponsor of the five-slate system evidence that it compels a child to analyze his own intellectual processes while he is expressing a thought. This is bad enough; but, in addition, expression of his thoughts must develop strictly along syntactical lines; then, to cap the climax, the advocates of this system emphasize the fact that the method is objective. The system ignores the fact that the emotions play an important part in forming the vocabulary of the young hearing child, and that under any rational method of instruction they would play an equally important part in the development of the young deaf child.

The five slate, or column, system as invented by Sicard and as modified by Miss Barry, was a grammatical device intended to aid in teaching language by the manual, or silent, method. A careful study of Miss Barry's book and Mr. Booth's comments upon her work establishes the fact that both Miss Barry and Mr. Booth measured results in terms of written English. (The *Educator*, vol. iv, pp. 43, 65, 273–274).

The standard of excellence in an oral school during the first two years should not be written language, but the production and understanding of easy and natural speech. Easy and natural speech and lip-reading must take cognizance of the facts and conditions vital to child life, and should not be hindered by a study of grammatical structure. Grammar, or the structure of the sentence, may well be in the mind of the teacher; but grammar should follow language, whereas we teachers of the deaf have had grammar either precede language or go hand in hand with the acquisition of language. Children learn language through practice and imitation rather than by the application of any rules or logic. The five-slate system is illogical because it attempts to teach beginners logically. The beginning oral pupil does not need to have his attention constantly directed to the structure of the written sentence; he needs a degree of oral teaching which the use of the five-slate system renders impossible. When he does begin to write he should have an opportunity to write more voluminously, more rapidly, and more accurately than is possible while using any such grammatical device. The five-slate system prevents spontaneity on the part of both teacher and pupil; it delays the expression of idiomatic and other forms of language; it postpones the development of a working vocabulary; it should have no place in the primary class-room of an oral school for the deaf.

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THE TONOSCOPE.*

It is possible to make vibrations which produce a tone to the ear also produce a picture to the eye—a picture which reveals details of pitch faithfully and far more finely than the ear can hear, and which may, therefore, be employed for the objective measurement of pitch in teaching speech to the deaf. The pupil standing before an instrument sees in clear pictures every pitch movement of the voice as he is speaking; he sees exactly how many vibrations per second the vocal organs are producing, and thereby can tell, at the very moment of speaking, what error is involved, even down to the hundredth of a tone; he can practise before the instrument by the hour with the opportunity of seeing the error in every tone and controlling the voice by the eye at pleasure; he can study the inflections of the voice objectively and train for mastery; he can be trained to speak with pleasing inflection of the voice by practising with the aid of the eye.

This array of claims may seem extravagant, but these and many other related achievements are made possible by the development of a ready and accurate method of registering pitch. The instrument which will do this is known as the *tonoscope*, and is now available for use in the studio, having been placed on the market in December, 1915.

The tonoscope† shown in the accompanying illustration‡ works on the principle of moving pictures, techni-

*A part of a paper read before the meeting of the National Music Teachers' Association in Buffalo, New York, December, 1915. Extracted, by permission, from an article in *Science*, N. S., vol. xliii, no. 1113, April 28, 1916.

†A full account of this instrument by the present writer, and an article by Dr. Walter R. Miles reporting investigations made by means of it, are to be found in the Psychological Monograph No. 69, pp. 1–66, *Psychological Review*, Princeton, N. J.

‡In the illustration the instructor has demonstrated the rise of pitch in which the word "I" is spoken in the sentence "I see you." Then he has drawn a diagram of that running from 128 to 192, and the boy keeps trying to reproduce this by sight with the model before him.

cally known as stroboscopic vision. It converts the sound vibrations into pictures on the screen. The screen, which may be seen through the opening on the front, has eighteen thousand and ninety-five dots so placed that, when acted upon by a sensitive light, they arrange themselves in characteristic figure for every possible pitch within the range of the human voice. Each figure points to a number on the screen which

Fig. 1.—The Tonoscope.

indicates the pitch. The dots are arranged into one hundred and ten rows; the first one has one hundred and ten dots, the next one, one hundred and eleven dots, and so on, each successive row having one more dot than the preceding one, up to the last, which has two hundred and nineteen. When the tone is sounded, the row which has the dot frequency that corresponds to the vibration frequency of the tone will stand still, while all other dots move and tend to blur. The row

which stands still, therefore, points to a number on the scale which designates the pitch of the tone. The screen contains a sufficient number of rows of dots to cover exactly one octave. Tones above or below this octave are read on this same screen by multiples.

To see the pitch of the tone, one has, therefore, only to see the number of the line that stands still. The tone may be given under natural conditions. Indeed, one may register the tone from any distant point with which there are telephone connections.

The instrument is operated electrically and will run indefinitely without any care or disturbance. This makes the tonoscope a ready and continuously available instrument in the studio or the laboratory. The speed of the revolving screen is controlled by a tuning-fork with which it must keep step, being driven by a synchronous motor.

In other words, we have here an instrument which will transform the vibrations of voice or instrument to visual configurations on a scale that indicates the actual pitch of any note down to an accuracy of a fraction of a vibration—often less than a hundredth of a tone. Indeed, if we are dealing with a note as constant as that of a tuning-fork or a string, the pitch will be recorded accurately in tenths of a vibration, because fractions of vibrations may be read in terms of the number of dots that pass per second in the slowly moving line.

There are various graphic methods of recording pitch in use, but these are entirely too laborious and cumbersome for practical use. The tonoscope furnishes us the first ready and at the same time reliable and accurate means of registering directly the pitch of a tone as sung, spoken, or played with a musical instrument in such form that it can be operated with convenience and safety outside the technical laboratory.

Up to the present time there has been only one tonoscope available, that in the psychological laboratory of the University of Iowa. This has passed through several stages of improvement during the last fifteen years; and this single instrument in its various stages of development, in the hands of a small group of investigators, has been a valuable aid in the discovery of interesting facts in the psychology of music. No thorough study has yet been made of its application to the training of the deaf.

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DEVICES USED IN TEACHING GEOGRAPHY.

Geography is an interesting branch to teach and may be made very comprehensive. This article, however, will make no attempt to cover the ground indicated by the word "geography;" it will rather mention a few devices and plans used in teaching this subject, which have been learned largely by experience.

First, a suggestion as to the preparation for the textbook. Before the pupil reaches the point where he can use a geography, and while the preliminary work is being done, he learns to use the expressions *west of*, *south of*, etc., intelligently.

But these expressions are only half of the knowledge in directions which will be needed when the child attempts to locate places on the map. After becoming familiar with the direction of the different rooms in the school building from each other, as well as that of different places in the city from school, he should learn in what *part of* the building are the principal rooms and in what *part of* the city are the various parks and other

public places. If this second step were taken at this time there would be fewer answers in the intermediate grades like the following: "Philadelphia is southeast of Pennsylvania," "The Rocky mountains are west of North America."

The seven chief occupations of the world—farming, manufacturing, lumbering, fishing, mining, transportation, and commerce may well form a part of the preliminary work to geography, taught under simpler names than some of these, and by means of stories and numerous pictures illustrating each occupation.

When the text-book is first given the child, there should be simple questions on the lesson—questions easy enough for the pupil to be able to find the greater part of the answers. If both question and answer are written on the slate for him, and he has only to copy and commit it, much of the benefit of the lesson is lost.

As the pupil advances in the study, the recitation may sometimes be made orally, the principal points alone being written, corrected, and copied for review. The copy of corrected work should also pass under the eye of the teacher, for mistakes are sometimes made in copying even by the most painstaking pupil and frequently by the careless one. Drill upon the chief facts in the geography lesson in this manner naturally and easily leads up to the use of topics in study and recitation.

When studying the group of states in which the pupils of the class live, a table written by the child makes a good review. Have him rule the paper into four columns; in the first column write the largest state of the group, in the second the chief mountains of that state, in the third the principal rivers, and in the fourth the largest cities, the capital and metropolis

at the head of the column. These states should be written in the order of their size, and each state should be bounded.

It adds interest to a place if one knows of somebody who has lived there. If before studying Scotland a short story of Robert Bruce is learned, it makes the land of Bruce seem much more real to the pupil. It is no great labor to adapt stories of Alfred the Great, Garibaldi, William Tell, and others, and they mean a great deal to the boy when he studies the countries of these heroes. Such stories aid in the culture of the pupil, stirring his imagination and awakening his ambition. It is a good thing for our deaf boys and girls to be hero-worshippers. But I was discussing geography.

A locating bee makes a refreshing change in reviews. It is conducted like a spelling bee excepting that, instead of words being given out to be spelled, rivers, cities, or mountains are given to be located. The class choose up sides and the pupil takes his seat when he fails to locate correctly the river, mountain, or city, as the case may be, which is given him. Pupils take a good deal of interest in a locating bee and work enthusiastically to prepare for it.

General comparisons of different continents are helpful drills for an advanced class. Compare North America and South America, and Africa with each of them. The comparison should include not only surface, coastline, drainage, etc., but corresponding directions of mountains and rivers, corresponding cities, products, peoples, and languages. Europe and Asia also have many similarities.

Before leaving the study of geography every pupil of good ability should be able to give brief statements in regard to the more important industries of our

country, their products, and the chief ways by which these products are transported to their destinations. He should know at least twenty-five cities of the United States, including the seven chief ocean ports, and a salient fact or two about each. Apropos of products, a little exercise with older pupils is to give an imaginary dinner party of several courses, the pupil writing the place from which each item used in the serving of the meal, as well each course in the dinner, may have come, beginning with the table, and the linen and silver upon it, and ending with the cigars and wine. This bit of recreation fixes numerous facts: where the best linen is made, from what sections the best game and meat come, where spices, salt, sugar, olive oil, raisins, tapioca, extracts, fruits, tea, and coffee are produced. Children really like to apply the information they already have and to learn more in some such way as this.

In the higher classes, stress should always be laid upon the reason of a city's growth. Why in Kansas City and Chicago is meat-packing a great industry? What reasons have made Minneapolis a flour-producing city? What natural conditions—resources or the lack of them—tended to make the city or section under discussion what it is?

But when all is said, each teacher must work for the needs of his particular class, adapting every device he uses to those needs. Plans and devices must, therefore, often be worked out anew to meet the requirements of different classes in order to secure the happiest results.

CORA MAY WHITCHER,
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WHY A CABINET MEETING WAS OMITTED.

[From the Diary of a President of the United States.]

February 16, 1828.—This day at one o'clock had been appointed for the Cabinet meeting. But the House of Representatives adjourned over from yesterday until next Monday, to allow the use of the hall this day for the exhibition of the deaf and dumb teachers and pupils. I learned the fact this morning from Mr. John Taliaferro, whom I fell in with on my walk. I shortened this walk, and at noon walked to the Capitol, leaving directions at home that if the members of the Administration should come at one, to ask them to wait a short time for my return from the Capitol, and ordered my carriage to be there for me at one.

I found at the Capitol Mr. Weld* delivering in the House of Representatives an address recommendatory of the institutions for the instruction of the deaf and dumb, which he soon closed, and then began the performance of the three pupils.†

Their language of gesticulation is twofold: one consists of spelling words, each letter being marked by the sign of a distinct collocation of the fingers; the other is by the motion of the arms and hands, and of the whole body, and by significant expressions of the countenance; it is altogether pantomimic. By spelling the letters they read and write, and thus they identify words. But it is through the pantomime only that they understand the meaning of their discourse, and two of them in writing a sentence occasionally used different words. Their writing is, in this respect, a translation of the

*Lewis Weld, Principal of the Pennsylvania Institution 1822–1830, afterwards Principal of the American School at Hartford.

†Pupils of the Pennsylvania Institution.

discourse delivered by gesticulation, and different translators use different words to convey the same thought.

Besides the examination which they underwent from their teacher, Mr. Weld, and from Mr. Gallaudet, Principal of the original institution at Hartford, Connecticut, several of the spectators, at the request of Mr. Weld, joined in the examination and put questions to the pupils, which they answered with as much acuteness and propriety as could be expected from youths of their age possessed of all their senses. But, as the questions put by the spectators were upon objects not within the ordinary routine of their studies, there was not quite the same promptitude or accuracy in their answers to them as when responding to their own instructors.

Vice-President Calhoun asked them what was the difference between *power* and *right*. They gave definitions, but without point. They did not suspect what was running in Mr. Calhoun's head when he put the question. They had not read the debate on the rules of the Senate and did not know that *right* was a president of a deliberate assembly without *power* to call to order for words spoken in debate.

Mr. Speaker Stevenson asked them who had given the world the greatest example of true glory. Only one of them attempted to answer this question, and he was sadly perplexed. He first answered, "God, by giving the gospel." He was told the question referred to human beings; he then wrote, "Moses." Finding this did not yet answer, he successively wrote, "Perhaps Bonaparte;" "Perhaps Washington." This name without the "Perhaps" was that which I suppose the speaker had intended to elicit.

Mr. Weld, to illustrate the method of teaching them abstract words and ideas, wrote the word *irrefragable*,

the use of which, he said, was unknown to them, and which, upon his enquiring of them, they signified that they did not understand. He taught them the meaning of it, so that they wrote sentences in which the word was properly introduced. I asked Mr. Gallaudet if he could make them understand the difference between *irrefragable* and *incontrovertible*. He said he could not immediately discern the distinction between them himself. I said *irrefragable* was that which could not be refuted; *incontrovertible* was that which could not even be contested. He then taught them the difference between the words, of which they wrote distinct definitions.

I desired the question to be put to them if they knew the figure over the clock in the hall; but they did not. Afterwards I enquired if they could tell the name of the Muse of History. One of them said he had forgotten it; but the question still did not suggest to him that it was the figure over the clock.

I asked Mr. Weld if he could make them write the line,

Hark! a glad voice the lonely desert cheers.

He told me the only word in the line he should spell to them by letters on the fingers was *lonely*. The eldest pupil wrote the line "Hark! a glad voice the lonely desolation cheers." The youngest boy wrote it "Hark! a glad voice *a* lonely desert cheers."

One of them was asked to write the names of several distinguished men of ancient and modern times, and of the four quarters of the globe; which he did. The spectators were requested to name any one of them for a brief biography. I named Plato; and the pupil immediately wrote down a short account of his life, death, and writings.

One of them wrote down an abstract of a conversation he had yesterday with Mr. Gallaudet on the sub-

ject of Rousseau of Geneva. The same boy, at the request of a lady, told a story of a clergyman mocked and mimicked, while preaching, by his monkey perched on the canopy over his head, to the inextinguishable laughter of his auditory.

There was a boy from Alexandria [Virginia] about fifteen, entirely untaught, with whom Mr. Weld held some conversation, mutually intelligible between him and the boy. He says there is a great resemblance between the gestures of all the uninstructed deaf and dumb. He says also that throughout the country the proportion of deaf and dumb to the whole population is about one to two thousand persons—about six thousand in the United States.

This exercise lasted about three hours, and when I came home I found Mr. Clay, Governor Barbour, and Mr. Southard had been here and were gone—Governor Barbour after waiting some time. * * *

17th.—Heard at the Capitol Mr. Gallaudet from Romans xv. 21: "But as it is written, To whom he was not spoken of, they shall see; and they that have not heard shall understand." It is a part of the chapter in which St. Paul declares himself peculiarly the apostle of the Gentiles; and Mr. Gallaudet, in the application of his discourse, considered the deaf and dumb as Gentiles of our own age and country.

The sermon, written in unambitious style, was fervent in manner and cogent in reasoning.* The forlorn and pitiable condition of the deaf and dumb without instruction, and the world of thought, of knowledge, and of enjoyment created for them by teaching, were

*President Adams was an habitual church goer and in the course of his voluminous diary he reports and comments upon numerous sermons. Very seldom does he find occasion to speak of any of them in such words of approval as in this instance.—E. A. F.

contrasted without elaborate study for effect, but by reference to his own experience in the progress of educating them. He dwelt especially, and with power, upon the blessing imparted to them in the ideas of a Supreme Creator, of their own immortality, and of the hopes and promises of the gospel. The hall was well filled, but not crowded, and the sermon was listened to with deep attention.

Mr. Gallaudet is the first founder of the schools for deaf and dumb in this country, and may, without arrogance, compare his own condition and his services to his fellow-mortals with those of the Apostle of the Gentiles.

JOHN QUINCY ADAMS,
President of the United States, 1827–1831.

THE SURVEY OF A DAY-SCHOOL FOR THE DEAF.

THIS article deals with a summary of the findings of the writers in their survey of the Grand Rapids Day-School for the Deaf. As far as the writers are aware, there has not been published up to the present time any survey, in the modern sense of that term, of any school for the deaf. One obvious reason for this is the lack of any definite standards of educational achievement such as we possess for schools for the hearing. It is for this same reason that the survey here reported will not include a measurement of the ordinary subjects of instruction. Two educational tests, only, were given. The rest and major portion of the report deals with the survey of the mental status of the pupils in the school. This was made possible by the tentative standards and norms already established by the writers for deaf children.*

The pupils of the deaf school were tested with the following tests:

A. Intelligence tests { *a.* Class tests, (1) digit-symbol, (2) symbol-digit.
b. Individual tests, 8 different tests.

B. Educational tests of language ability { *a.* Two directions tests.
b. Trabue language scale A.

This report will take up the results for the school in the above order.

A. INTELLIGENCE TESTS.

(a) *The Class Tests.*—The two class tests used were the Digit-Symbol and Symbol-Digit tests. These tests give a measure of the quickness of forming new associations. They may be termed "learning tests."

*The writers wish to acknowledge in this place the courtesies extended to them by Mr. Wm. A. Greeson, Superintendent of the Grand Rapids Public Schools, and Miss Pauline Camp, Principal of the Oral School for the Deaf, at whose invitation this survey was conducted, and who have kindly consented to the publication of this report.

From work previously done with these tests, we may state that they give an excellent measure of the learning ability of children.* The scores made by the individual pupils on these two tests are shown in Table I. The table shows the following facts: Column 1, the number of years accelerated or retarded as determined by the score made by the pupil in comparison with the norms for hearing children. This value is derived by subtracting the chronological age in column 3 from the hearing age in column 5. Column 2 (identification number) gives the number assigned to each child for the purpose of locating his position on the graphs. Each child retains the same identification number for all the tests. Column 3 gives the chronological age of the child (age last birthday). Column 4 gives the score of the child on this test. Column 5 gives the age of the hearing child whose average score on this test corresponds most closely to the score of the deaf child, *i. e.*, the preceding score in column 4 is expressed in terms of the age of hearing children. Column 6 is the same as column 5 except that here the score is expressed in terms of the age of the average deaf child. Column 7 gives the number of years accelerated or retarded which the individual is in comparison with deaf children.

The first line of Table I is to be read as follows: Individual No. 1 (column 2) is one year in advance of the average hearing child of the same age on this test (by reference to column 1); his age last birthday is 13; his score on this test is 23.0; this score corresponds to

*For a full description of these tests, an explanation of the method of giving the tests and the manner of scoring them, together with the norms already established for the deaf, the reader is referred to Pintner, R., and Patterson, D. G., "Learning Tests with Deaf Children," Psychological Review Monographs, vol. xx, no. 88, Psychological Review Company, Princeton, New Jersey, pp. 58, price 75 cents.

TABLE I.

INDIVIDUAL SCORES ON THE DIGIT-SYMBOL AND SYMBOL-DIGIT TESTS.

A. *The Digit-Symbol Test.*

1 Hearing years, + or −.	2 Identification No.	3 Chronological age.	4 Score.	5 Hearing age.	6 Deaf age.	7 Deaf years, + or −.
Class A.						
+1	1	13	23.0	14	Ad.	+ 6+
−1	2	13	22.7	12	18	+ 5
−5	3	18	21.7	13	16	− 2
−5.5	4	18	20.6	12.5	15	− 3
−1.5	5	14	20.1	12.5	15	+ 1
−1	6	13	19.6	12	14.5	+ 1.5
−8	7	18	14.5	10	12	− 6
Medians −1.5		14	20.6	12.5	15	+ 1
Class B.						
−1	8	15	23.7	14	Ad.	+ 4+
−2.5	9	14	17.7	11.5	13	− 1
−3.5	10	13	16.5	9.5	12.5	− 0.5
−4	11	14	15.6	10	12.5	− 1.5
−6	12	14	10.6	8	11.5	− 2.5
−5	13	13	10.0	8	11.5	− 1.5
Medians −3.75		14	16.0	9.7	12.5	− 1.25
Class C.						
−5+	14	13	4.5	−8	9.25	− 3.75
−?	15	8	1.1	−8	8.5	+ 0.5
−?	16	7	0.5	−8	8	+ 1
Medians −?		8	1.1	−8	8.5	+ 0.5
Class D.						
−2	17	10	10.6	−8	11.5	+ 1.5
−4	18	12	8.4	−8	10.5	− 1.5
Medians −3		11	9.5	−8	10	0
Class E.						
	19	7	11.4	−8	11.5	+ 4.5
	20	9	9.6	−8	11.5	+ 2.5
−4	21	12	5.2	−8	9.5	− 2.5
	22	8	0	−8	(?)	(?)
Evening School.						
0	25	24	31.1	Ad.	Ad.	0
− 9.5	26	20	16.2	9.5	12.5	− 6.5
− 9.5	27	21	16.0	9.5	12.5	− 6.5
−10	28	25	15.2	9	12.5	− 6.5
− 9	29	21	15.0	10	12.5	− 6.5
−11	30	19	9.4	−8	10.5	− 8.5

TABLE I—CONTINUED.

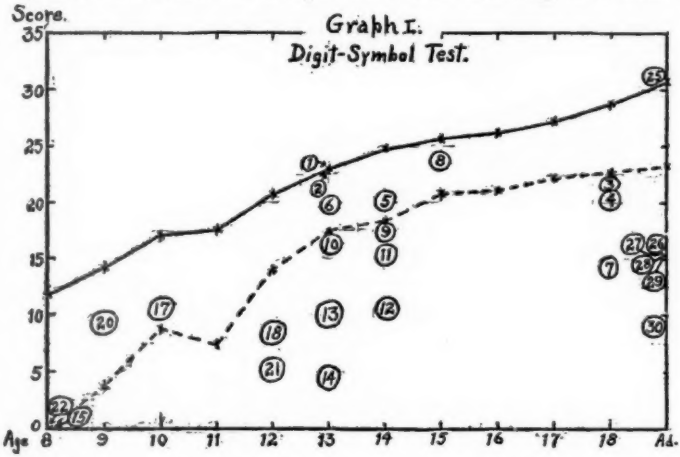
INDIVIDUAL SCORES ON THE DIGIT-SYMBOL AND SYMBOL-DIGIT TESTS—Continued.

B. *The Symbol-Digit Test.*

1 Hearing years, + or −.	2 Identification No.	3 Chronological age.	4 Score.	5 Hearing age.	6 Deaf age.	7 Deaf years, + or −.
Class A.						
+1	1	13	23.0	14	17	+ 4
−4.5	4	18	21.4	13.5	15	− 3
−2	5	14	19.0	12	13.5	− 0.5
−7	3	18	17.6	11	12.5	− 5.5
−4	2	13	14.8	9	11.5	− 1.5
−8.5	7	18	14.4	9.5	11.5	− 6.5
−4	6	13	13.6	9	11.5	− 1.5
Medians −4			17.6	11	12.5	− 3
Class B.						
−2.5	11	14	18.1	11.5	13.0	− 1
−3.5	8	15	18.0	11.5	13.0	− 2
−4	9	14	16.9	10	12.0	− 2
−4	10	13	15.1	9	11.5	− 1.5
−4	13	13	14.2	9	11.5	− 1.5
−5.5	12	14	11.7	8.5	11.0	− 3
Medians −4			16.0	9.5	11.75	− 2
Class C.						
−5	14	13	6.4	−8	9.5	− 3.5
(?)	15	8	0	−8	8	0
(?)	16	7	0	−8	8	(?)
Class D.						
+1	17	10	20.5	11	14.5	+ 4.5
−4+	18	12	7.0	−8	9.5	− 2.5
(?)	23	6	0.5	−8	8.5	+ 2.5
−1+	24	9	0	−8	−8	− 1+
Class E.						
0	20	9	12.7	9	11.5	+ 2.5
−3.5	21	12	12.0	8.5	11.5	− 0.5
(?)	19	7	9.4	−8	10	+ 3
(?)	22	8	0	−8	−8	(?)
Evening School.						
− 5	25	24	23.2	14	18	− 1
− 8	27	21	17.8	11	13	− 6
− 9.5	26	20	15.2	9.5	11.5	− 7.5
− 9.5	28	25	14.8	9.5	11.5	− 7.5
− 9.5	31	30	14.0	9.5	11.5	− 7.5
−10.5	29	21	11.6	8.5	11	− 8
−11	30	19	4.2	−8	8.5	−10.5

the norm for a 14-year-old hearing child and to the norm for a deaf adult (*i. e.*, individuals 19 years or more); and he is more than 6 years accelerated as compared to the average deaf child of his age.

The pupils are arranged in groups according to classes and at the end of each group are given the medians for the chronological age, the score, the hearing age, the deaf age, and the number of years accelerated or retarded in comparison with hearing and deaf



children. As is natural, the comparison with hearing children shows a retardation in every class. The comparison with the average deaf child is of more interest. Following the median under column 7 for each class in the Digit-Symbol test we note that, in learning as tested by this test, class A is one year advanced. The learning ability of the class is well up to what we should expect in deaf children of their age. Class B shows a retardation of 1.25, *i. e.*, the ability of these children is somewhat below the norm. Class C is normal in ability (+0.5). Class D is also fairly normal. Class E shows a very marked difference in the abilities

of the four pupils, two being above normal, one doubtful, and one very backward.

Following the results for the Digit-Symbol test are the results for the Symbol-Digit test arranged in the same manner. Practically the same thing is shown on this test with the exception of Class A. This time they do not do so well, showing a retardation of 3 years.

Graph I compares the standing of each child with the average performance of deaf and hearing children at each age on the Digit-Symbol test. The broken-line curve shows the norms for the Digit-Symbol test as established by us from the results of over a thousand deaf children. The solid-line curve shows the norm established for hearing children by Pyle.* The numbers enclosed in circles refer to the children of the deaf school, these numbers corresponding to the identification numbers in column 2 of the tables. We can thus see at a glance the position of any child in reference to the norm for the deaf and hearing and in reference to any other child. The base line gives the age and the vertical line at the left shows the score. Thus, for example, individual 25 is an adult and scores about 32 points, which is 6 points above the norm for the adult deaf and about equal to the norm for the adult hearing, and, further, he attains a higher score than any other deaf individual tested in Grand Rapids. Again, we can see that eight individuals lie above the norm for deaf children, *i. e.*, do better than the average deaf child; and the rest do about the same or worse than the average deaf child.

Graph II shows the same facts for the Symbol-Digit test. Here we find only four individuals who are above the normal curve for the deaf. There are, however,

*Pyle, W. H., "The Examination of School Children," The Macmillan Co., New York, 1913.

some cases that fall on the curve or only slightly below. Compared with the results for the average deaf the Grand Rapids' children have done worse on the Symbol-Digit test than on the Digit-Symbol test.

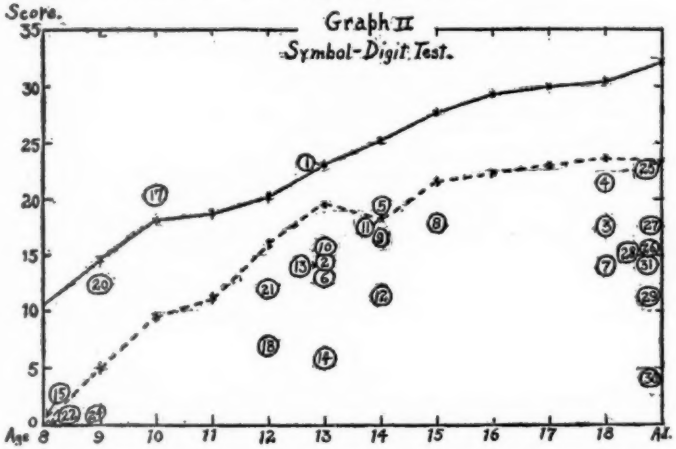


Table II presents for the Digit-Symbol and Symbol-Digit tests, respectively, the number of children accelerated or retarded as compared with hearing children. Column 1 shows the years of acceleration or retardation. Column 2 shows the number of cases for each year retarded or accelerated. Column 3 expresses this number in per cents. Columns 4 and 5 give the number and per cent. arranged in groups. The first group includes all children 2 or more years accelerated and these we may call Bright. In Grand Rapids none of the pupils fall in this group. The second group includes those from 1 year accelerated to 1 year retarded, *i. e.*, Normal. In Grand Rapids 26.1 per cent are included here. The third group includes those 2 or 3 years retarded, *i. e.*, Backward. In Grand Rapids 13 per cent. fall here. The fourth group includes all those 4 or more years retarded, *i. e.*, Dull. In

Grand Rapids we find 60.9 per cent in this group. Column 6 shows the percentages for these groups for the thousand cases previously referred to. The second half of the table gives the same facts for the Symbol-Digit test. The grouping in this case shows a somewhat larger percentage of Dull cases. We may read the first line of the table as follows: In the Digit-Symbol test 1 year acceleration (+1) finds one child so classified.

TABLE II.

RETARDATION AND ACCELERATION.

Digit-Symbol Test.						Symbol-Digit Test.				
Years Acc. or Ret.	Number of cases.	Per cent.	Groups. Number.	Groups. Per cent.	All deaf, per cent.	Number of cases.	Per cent.	Groups. Number.	Groups. Per cent.	All deaf, per cent.
			Br.	0	8.4	..	....	Br.	0	11.6
+ 1	1	4				2	7.7			
0	1	4	N. 6	26.1	24.3	1	3.9	N. 4	15.4	23.4
− 1	4	17.5				1	3.9			
− 2	2	9	B. 3	13.0	28.9	2	7.7	B. 4	15.4	27.6
− 3	1	4				2	7.7			
− 4	3	13				7	26.9			
− 5	4	17.5				3	11.8			
− 6	1	4				..	....			
− 7	..	....	D.14	60.9	38.5	1	3.9	D.18	69.2	37.3
− 8	1	4				2	7.7			
− 9	3	13				3	11.8			
−10	1	4				1	3.9			
−11	1	4				1	3.9			
Total	23	98.0	23	100.0	100.1	26	100.8	26	100.0	99.9

This is 4 per cent of the 23 children tested. Similarly, for the Symbol-Digit test there were 2 children accelerated 1 year, which is 7.7 per cent. of the 26 children tested.

The comparison between the percentages for Grand Rapids and All Deaf leads us to the following conclusions: (1) that the Grand Rapids school is lacking in "Bright" children; (2) that the number of "Normal" children is almost up to expectation; (3) that the

number of "Backward" children is below expectation, and (4) that the number of "Dull" children is far above expectation. It is about twice the usual number found in the three state institutions previously tested. We venture the remark that Grand Rapids is taking care of a greater number of deaf children in proportion to the number in the community than a state institution cares for in proportion to the number of deaf in a state. Some selection of individuals probably takes place in some state institutions, and this selection will tend in some cases to the elimination of the poorest pupils. Such elimination evidently does not take place in Grand Rapids to the same extent and therefore the school has accumulated a greater number of "Dull" pupils.

(b) *The Individual Tests.*—Twenty-three of the deaf pupils were examined individually on seven mental tests.* In computing the mental age of each child on these tests the performance of the child on the Digit-Symbol and Symbol-Digit tests was also taken into account. The results for these tests are shown in Table III. This table gives in column 1 the number of the individual child; in column 2 the chronological age; in columns 3 to 9, inclusive, the ranking of the child on the following seven tests: the Cube Test,† the Casuist Test, the Five-Figure Board, the Two-Figure Board, Healy's Construction Puzzle A,‡ Woodworth

*It is impossible in the scope of this article to give a description of these tests and an explanation of the method of giving them. A full description of them with norms for deaf children will shortly be published by the writers.

†For a full description of this test, see Pintner, R., "The Standardization of Knox's Cube Test," *Psychological Review*, vol. xxii, no. 5, September, 1915, pp. 377–401.

‡Healy, W., and Fernald, Grace M., "Tests for Practical Mental Classification," Psychological Review Monographs, no. 54, March, 1911.

and Wells' Substitution Test,* and the Feature-Profile Test;† in column 9 the final ranking of the pupils on the results of all the tests combined; in column 10 the estimated mental age of the pupils as compared with

TABLE III.

RANKING OF THE CHILDREN ON THE INDIVIDUAL TESTS.

Identification No.	Chronological age.	Cube test.	Casuist.	Five figure.	Two figure.	Healy A.	Substitution.	F. P. test.	Rank.	Ment. Age.	Ret. Acc.	Diagnosis.
1	13	5.5	6	1	1	13.5	1	8	1	17.9	+4.9	Br.
5	14	10.5	4	4.5	17.5	7	2	5	2	16.1	+2.1	Br.
6	13	1	21	2	4.5	17	4	4	3	15.4	+2.4	Br.
30	19	5.5	1	15	9	9	7.5	9	4	15.5	−3.5	B.
3	18	5.5	3	3	13	18	11	6	5.5	15.2	−2.8	B.
18	12	2	13	7.5	6	21.5	7.5	2	5.5	14.2	+2.2	Br.
17	10	18	8.5	6	7	2	3	16	7	14.8	+4.8	Br.
12	14	18	2	7.5	10.5	11	19	3	8	14.1	0	N.
8	15	18	15	4.5	2.5	8	5	22	9	15.0	0	N.
2	13	5.5	8.5	18	14	10	9	13	10	14.6	+1.6	N.
7	18	22.5	16	12	2.5	1	13	11	11	14.3	−3.7	B.
9	14	5.5	10	17	10.5	13.5	12	12	12	13.5	−0.5	N.
4	18	10.5	11	21	4.5	5	14	15	13	14.8	−3.2	B.
20	9	10.5	12	13.5	20	5	18	7	14	13.5	+4.5	Br.
10	13	13.5	5	9	23	16	6	19	15	12.5	−0.5	N.
13	13	18	14	23	8	12	17	1	16	12.8	−0.2	N.
19	7	5.5	19	13.5	22	3	16	20	17	12.3	+5.3	V. Br.
11	14	18	7	16	12	15	10	22	18	12.6	−1.4	N.
14	13	13.5	17	10	19	5	22	14	19	11.1	−1.9	N.
15	8	18	18	11	15.5	21.5	23	10	20	10.1	+2.1	Br.
22	8	10.5	20	22	17.5	19	20	18	21	8.7	+0.7	N.
21	12	22.5	22	19	21	21.5	15	17	22	8.5	−3.5	B.
16	7	18	23	20	15.5	21.5	21	22	23	8.3	+1.3	N.

deaf children; in column 11 the number of years retarded or accelerated, *i. e.*, the difference between the mental age and the chronological age; and, lastly, in column 12 our diagnosis of the pupil, as very bright (V. Br.), bright (Br.), normal (N.), backward (B.), or

*Woodworth, R. S., and Wells, F. L., "Association Tests," Psychological Review Monographs, vol. xvii, no. 5, December, 1911.

†Knox, Howard A., "A Scale, Based on the Work at Ellis Island, for Estimating Mental Defect," *Journal of the American Medical Association*, March 7, 1914, vol. lxii, pp. 741–747.

dull (D.), according to the amount of retardation or acceleration. This mental age upon which we base our diagnosis, it is to be noted carefully, is not a comparison of the deaf with the hearing child, but of any individual deaf child with the average deaf child. Thus, if we say that a pupil has a mental age of 8 on these tests, it means that his performance on the tests corresponds to the performance of an average deaf child aged 8.

TABLE IV.

INDIVIDUAL TESTS.

Classification of Cases as Contrasted with Norms for Deaf.

Years accelerated or retarded.	Number of cases.	Per cent.	Groups.		Remarks.
			Number.	Per cent.	
+5	1	4.3	4	17.4	Very bright.
+4	3	13.0			
+3	..	....			
+2	4	17.4	4	17.4	Bright.
+1	2	8.7			
0	6	26.0	10	43.5	Normal.
−1	2	8.7			
−2	1	4.3			
−3	4	17.4	5	21.7	Backward.
−4	..	....			
Total	23	99.8	23	100.0	

The first line of Table III should be read as follows: Child number 1, age 13, ranked 5.5 (*i. e.*, tied for fifth place) on the Cube Test; his ranks on the other tests were 6, 1, 1, 13.5, 1, and 8; his final rank was 1, *i. e.*, he is first as compared with the 23 pupils tested; his mental age is 17.9; he is 4.9 years accelerated; and he is classified as a bright deaf child. This means that the pupil in question approximates the mentality of the average 17-year-old deaf child. The mental age

of the 23 pupils tested is the best estimate of the mentality of the deaf that we are at present able to give, and it is the mentality of the individual tested expressed in terms of the age of the average deaf child.

Table IV shows the distribution of the 23 children according to the number of years accelerated or retarded in comparison with the performance of deaf children. It is to be noted that the similar table for the Digit-Symbol and Symbol-Digit tests made a comparison of the deaf with the hearing children and therefore Table IV is not comparable with Table II. The groups on Table IV show four children very bright, four bright, 10 normal, and five backward.

B. Educational Tests.

Under this heading we have included the three class tests dealing with the knowledge of language. We have kept these apart from the other tests since the problem of language with the deaf child is entirely one of education and is related to the mentality of the child only in so far as the learning of anything depends upon the child's general intelligence. The uneducated deaf child may have no language, but still possess considerable general intelligence.

(a) *The Directions Tests.**—The results for the children tested are given in Table V. The table shows the identification number, the score in Directions Test A and in Directions Test B, and the results of the Trabue Language Test to be discussed below.

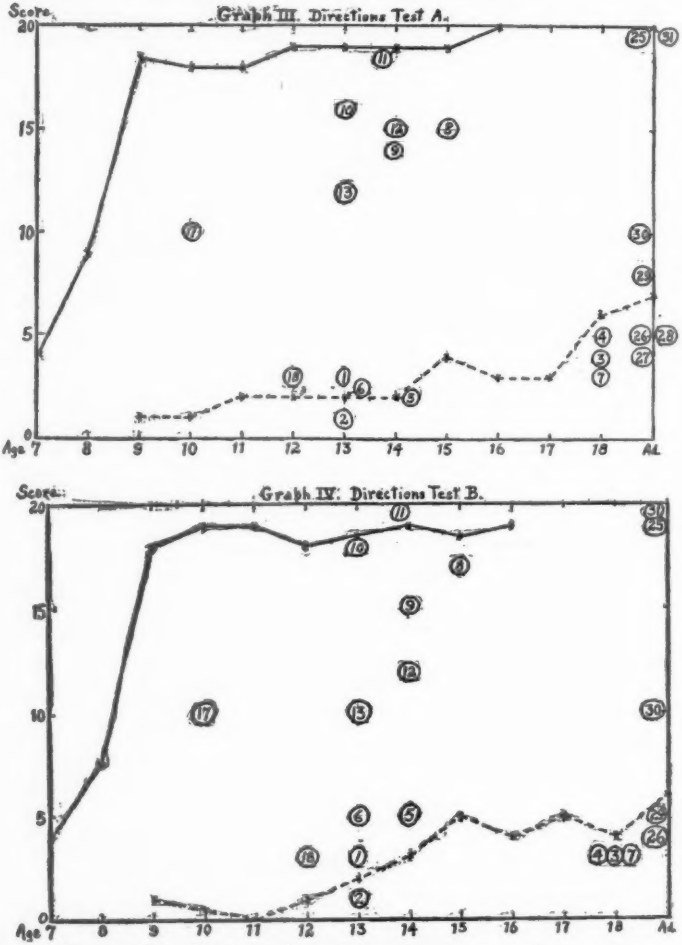
*For a description of these tests see Pintner, R., and Paterson, D. G., "The Ability of Deaf and Hearing Children to Follow Printed Directions," to appear shortly.

TABLE V.

INDIVIDUAL RESULTS OF DIRECTIONS TESTS AND A B, AND TRABUE LANGUAGE SCALE.

Identification No.	Directions.		Trabue Scale.	
	A.	B.	Score.	Grade.
Class A.				
1	3	3	7	2.5
2	1	1	2	− 2
3	4	3	3	− 2
4	5	3	6	2.5
5	2	5	4	2
6	2	5	4	2
7	3	3	6	2.5
Medians	3	3	4	2
Class B.				
8	15	17	16	4.5
9	14	15	10	3.5
10	18	18	16	4.5
11	19	20	22	6.25
12	15	12	17	4.75
13	12	10	9	3.25
Medians	15	16	16	4.25
Class C.				
14	..	..	5	2.25
15	..	..	0	− 2
16	..	..	0	− 2
Medians	..	..	0	− 2
Class D.				
17	12	10	8	3
18	3	3	4	2
Medians	..	..	6	2.25
Class E.				
19	..	..	2	− 2
20	..	..	0	− 2
21	..	..	2	− 2
22	..	..	4	2
Medians	..	..	2	− 2
Evening Class.				
25	20	19	21	6
26	5	4	4	2
27	4	..	8	3
28	5	..	5	2.25
29	8	5	8	3
30	10	10	13	3.75
31	20	20	36	11.5
Medians	8	10	8	3

Graphs III and IV show the curves for the deaf (broken line) and for the hearing (solid line) for each of the two Directions Tests and the position of each of



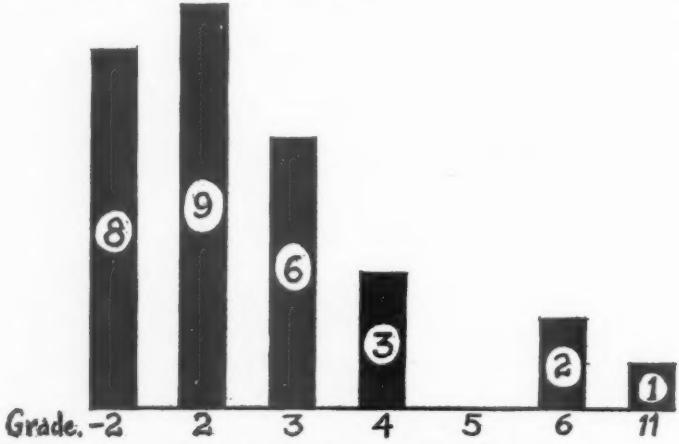
the Grand Rapids' pupils with reference to these norms. The pupils are shown as before by their identification number. A glance at the graphs shows a great scatter-

ing of pupils all over the paper. There seems to be a total lack of uniformity in the abilities of the deaf children to follow these printed directions. We must bear in mind, however, that we are dealing with three groups of deaf individuals, *i. e.*, deaf children, deaf adults, and hard-of-hearing children. If now we ask what each of these three groups did on these tests we arrive at the following general facts. In test A six of the deaf children are below or are at the norm for deaf children (broken line curve) and only one is above; of the hard-of-hearing all except one have scores of 12 or more; of the adults, four are above and three below the deaf norm. In test B, four of the deaf children are below and three slightly above the norm for the deaf; of the hard-of-hearing, all except one have scores of 10 or more; of deaf adults three are above and two below the norm for the deaf. In brief, these deaf children have the same difficulty in doing this test as we have found to be the case with other deaf children. They cluster around the curve for the average deaf. The hard-of-hearing do much better than the deaf; in some cases as well as the hearing child. In mental tests the hard-of-hearing did not show any superiority to the deaf; indeed, on the whole they seemed somewhat inferior. Here, because of their ability to hear spoken language they are decidedly superior to the deaf. It does not seem that language alone can be taken as a basis for the estimation of intelligence.

(b) *The Trabue Language Scale.**—The individual results on the language scale are shown in Table V in the last two columns. The second from the last column

*For a description of this scale see Trabue, M. R., "Completion Test Language Scales," Teachers' College, 1916. For results with the deaf on this test, see Pintner, R., and Paterson, D. G., "The Measurement of the Language Ability of Deaf Children," an article to appear shortly.

gives the score and the last column gives the corresponding grade for hearing children. This is a comparison between the score of the individual child and the average score for grades in hearing schools. Thus, child number 1 scores 7 on this test and this score is a little better than the score of the average second-grade child in hearing schools. At the bottom of each class the medians are given. The difference between the deaf children in Class A and the hard-of-hearing children in Class B is again great. The average for the former is second-grade ability and for the latter somewhat better than fourth-grade ability. Classes C and E do not rise to second-grade ability in language work. The evening class, as would be expected, shows a wide variation in language ability.



GRAPH V.—Trabue Language Scale.
Distribution of pupils according to hearing-grade ability.

Graph V shows the distribution of the pupils tested according to the grade ability in this language test. The individual having eleventh-grade ability is an evening-class student, who we believe lost her hearing

only recently. Of the two having sixth-grade ability, one is an evening student, an adult, and the other a hard-of-hearing boy. None of the rest rise above fourth-grade ability.

Unfortunately, there is no data at hand as yet with a large number of other deaf children to make a comparison of the language ability of the Grand Rapids children with the average deaf child. Therefore, we are only able to compare the deaf child with the average hearing child in language ability. It seems to us that this test repeated every year ought to give a fairly reliable measure of the increase in language ability of deaf children from year to year.

Conclusion.

The general impression gained from these tests would seem to us to be that the Oral School for the Deaf at Grand Rapids, Michigan, possesses a relatively higher percentage of mentally slow pupils than we have found in three large state institutions. If this impression is well founded, it means that the educational problem with the deaf in Grand Rapids is a difficult one, and that the work there must be judged in the light of these results. When educators of the deaf have arrived at standards in the subjects of instruction, a real measure of the instruction in the school, taking into account the mentality of the children, will be found possible.

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THE ORGANIZATION OF SCHOOLROOM WORK.*

II. The Recitation of Lessons.

WE REGARD the recitation of lessons as the most important exercise of all the school work. This is not a vague opinion, but a conviction based upon objective and definite considerations, as we shall show in the course of this article.

It is relatively easy for an experienced teacher to make his pupils understand language; it is much more difficult to make them retain it. To attain this last result—that is, to assure the assimilation of their linguistic acquisitions—a series of operations is needed, and, whatever form these may assume, they should all tend to demand of the pupil a personal effort and to secure by study the repetition of the notions taught.

In the exposition of lessons, as we have seen, we require of the pupil a certain mental and even a certain physical activity. It is, however, true that this activity tends simply to permit him to follow the teacher and make the required observations relative to facts or words as the latter presents them to him. At first, the exposition of the lessons evokes the desired ideas in the child's mind by associating them there with the various images of the words read on the lips, read on the blackboard, and pronounced aloud. But the evocation of the ideas and their association with their respective signs are fleeting and are suggested by the efforts of the teacher. The ideas on the one hand, the words on the other, are in danger of being forgotten, and the tie which has been effected between such and such an idea and such and such a word is in danger of being broken, unless we induce the pupil to take a

*Continued from the May number, page 264.

stronger hold of the knowledge which has been presented to him.

What course then is to be pursued? A text containing the essential elements of the lesson is written on the blackboard and copied in a note-book. While writing, the pupil pictures to himself the things and facts designated by the words which his pen traces and which he murmurs indistinctly (he may even, without disturbing his classmates, pronounce them aloud). This is the first repetition of the lesson. Then he studies the lesson, that is, he reads it several times and tries to repeat from memory each sentence or paragraph, indeed, the entire text. Here we have a series of repetitions which, if the pupil has been well trained, bring about the evocation of the ideas and the association between them and the words which express them, considered under their forms—read and spoken. Moreover, while in the exposition of the lesson the pupil observes the things and facts and conceives the ideas before making use of the words, when he is studying he takes the words as the point of departure and it is the words themselves that must evoke the ideas; he goes over in an inverse direction the course pursued in the exposition of the lesson. Finally, in all this work, he is left to himself, and is consequently obliged to make a personal effort to ensure his mastery of the elements of the language contained in the lesson. In the exposition the teacher interposed between the things and words on the one hand and the pupil on the other, and directed the evocation of the ideas and the use of the words. In the study of the lesson the pupil takes possession of the ideas and words directly, insuring by himself the necessary evocations and associations. And his effort is so much the more energetic, and consequently efficacious, because the

result is going to be determined by it and to be sanctioned by the recitation of the lesson.

But what form shall the recitation assume? Shall the pupil recite by heart, and word for word, the text of the lesson, or must he simply reply suitably to the questions that are put to him? In our opinion the best plan is to adopt these two forms of recitation alternately, for each has its advantages and disadvantages; each procures for the pupil a special benefit.

The recitation of a text learned by heart and reproduced word for word requires a prolonged study and an energetic appeal to the memory. The pupil knows well that it demands from him an intense effort; so he does not fail to manifest a certain discontent when he is informed that a lesson is to be recited thus. But that which in the eyes of the child is a fault is regarded by the teacher as a benefit; the study word for word has the double advantage of making him acquire more thoroughly the elements of the language contained in the lesson and of contributing efficiently to the cultivation of the memory. Now, if the memory does not deserve all the eulogiums that have been passed upon it, neither does it deserve all the reproaches that have been cast upon it. The truth is that "memory is at the basis of every kind of instruction; to learn is to exercise one's memory, to store up memories; a person who has little memory learns almost nothing or learns poorly. We may even go so far as to say that no progress is possible in a mind which is incapable of retaining what it has perceived or conceived."*

After the exposition of the lesson, the purpose of which is to lead the pupil to perceive and conceive, the study of that lesson, word for word, constitutes an

*Alfred Binet, "*Les Idées Modernes sur l'Enfant*," p. 163.

especially efficient means of making him retain what he has perceived and conceived.

However, it must not be forgotten that the deaf child must retain at once the ideas, the words, and the ties that unite the words to the ideas. The learning of the lesson by heart and its recitation word for word present a serious danger; a child may learn a text and recite it with absolute accuracy without its evoking in his mind a single one of the ideas which it expresses. The exercise then becomes merely verbal; the words learned remain deprived of all practical utility and the child forms the bad habit of speaking without thinking, parrot-like.

This peril is especially great when one resorts to recitation by writing, for how can one be sure whether or not the pupil, while writing, pictures to himself the facts that he is expressing? Those who employ this mode of recitation claim that it saves time; the same text is reproduced by all the pupils at once. But let us not allow ourselves to be deceived by appearances. Of two things, one or the other takes place: either the teacher reads the copies carefully and corrects them, and then the apparent economy of time, as we shall show presently, is exceedingly insignificant or entirely null; or the instructor casts only a vague and rapid glance upon these copies, and then the recitation is of no effect, or at least offers no guaranty. But, really, in both cases, the time devoted to recitation is lost or ill employed, which amounts to nearly the same thing. In fact, of all the forms that the word assumes, the oral form is the most important; it is the one that affords to language its strongest support, and it is also the one that offers the greatest practical utility, since a man of humble condition has occasion to speak infinitely oftener than to write. It is this essential

form of the word that is neglected in recitation by writing; the teacher assures himself, it is true, that the pupil has retained what is incidental, but he fails to ascertain whether he has mastered what is essential.

There is also a way of reciting aloud which, if it escapes the last accusation that we have just brought against recitation by writing, nevertheless merits the first. It consists in requiring the pupil merely to reproduce the lesson word for word aloud. For then it is impossible to determine whether the child is speaking mechanically or is picturing the facts to himself as he names them.

The real recitation by heart, which is free from all reproach because it accomplishes its object perfectly, is that in which the child plays the scene as he describes it, shows the things of which he speaks, or the representation of them by drawing, executes or imitates the actions that he names, or at least shows the representation of them upon an engraving. The idea and the word under its principal form necessarily appear in this mode of recitation; it cannot be mechanical and it brings into play the two principal forms of the memory: the memory of ideas and the motor memory of articulation. It is strictly individual, each pupil being obliged to come and recite in his turn; the exercise is therefore rather slow. But since it permits the teacher to ascertain in what degree each one has assimilated the ideas or the pronunciation of the words that compose the lesson, and at the same time to supply the omissions and correct the imperfections noticed, the time devoted to this intelligent and fruitful labor, far from being lost, must be regarded as admirably employed.

The mode of recitation which consists in questioning the pupil upon the lesson that he has studied also

offers important advantages and must be frequently employed. To be sure, it does not require a study so prolonged, an effort so intense, as the recitation by heart; it therefore constitutes a less efficacious means of cultivating the memory—at least the memory of words—but it has other advantages of great importance.

In this mode of recitation we appeal to the intelligence more than to the memory, to the memory of ideas more than to the memory of words. The pupil must understand the meaning of the question proposed, must conceive the meaning of the answer which he is going to have to formulate, must find the words and forms which this answer requires. Now, in order that this may be done, it is indispensable that the terms and forms which compose the teacher's question should evoke the ideas of which they are the signs, that these ideas, by association, should suggest the ideas which are to constitute the answer, and that the latter, in their turn, should suggest to the mind of the child the words that express them. Here is a mode of intellectual activity which has little resemblance to a mechanical task! It may even be affirmed that a pupil who goes through it well has perfectly understood and retained the lesson.

This affirmation, however, may be made only on condition that the lesson itself has not taken the form of a dialogue, or, to use the established expression, the catechetical form. If the child has studied a series of questions with their respective answers, if the teacher confines himself to putting these questions and asking the pupil to reply to them, as one does to the catechism, there is nothing to prove that the exercise is not merely mechanical. In fact, it is not necessary to think at all of what one is saying to remember that such and such a question calls for such and such an

answer: the memory of words suffices, that of the ideas may be fast asleep.

It is quite otherwise if we have a lesson studied that has been presented under the expository form, and if at the moment of recitation we put the necessary questions to assure ourselves that the child has understood and retained the meaning and the text of this lesson. It is then that the exercise requires on the part of the pupil the intelligent labor that we have described above and that this exercise permits us to judge in what degree the lesson is known, taking this term in the full extent of its meaning.

This mode of recitation, moreover, has the advantage of being at once collective and individual. All the pupils stand in a semicircle of which the instructor occupies the center. The teacher addresses each of his questions to all the children, so that each may expect to have to formulate the answer. One among them is then designated to reply; the teacher corrects, if there is occasion, the meaning or the form of the answer, after which he has it repeated by all the pupils in concert. And so, from one end of the recitation to the other, the entire group of the pupils of a division is kept constantly in a state of intellectual activity, while a precise determination of the manner in which each has studied the lesson is afforded.

We also see a form of the word appear here which in the recitation by heart is lost sight of; namely, the form that is used in lip-reading. Each of the pupils of the class must read the question on the lips of the teacher, and read the answer on the lips of a classmate, while repeating both aloud; this constant association of the idea with the two oral forms of the word (lip-reading and pronunciation) constitutes an immediate preparation, a direct incentive to the practical utilization of language.

Finally, the repetition of the linguistic elements contained in a lesson is carried, in this mode of recitation, as far as is possible. In fact, the child is first obliged to read and reread the text of the lesson, attending especially to the meaning; it is the only way for him to put himself in a position to solve the little problems which the teacher is going to propose to him in his questions. Then come the questions, read on the instructor's lips, and the replies, read on his classmates' lips, both being repeated aloud by each of the pupils. Hence comes a new repetition of the ideas in their minds and a new appearance of the words to their eyes and upon their lips. But this is not all: the questions proposed may be written on the blackboard and then copied into the note-book. The text and the questions then give the material for a new lesson. In studying it, the pupil puts every question to himself and exercises himself by answering it with the aid of the text that precedes. This affords a new repetition, a new appeal to the memory of the ideas and of the words. This new lesson, being recited in the same manner as before, arouses again in the child's mind the sequence of the ideas which it contains, and the appearance, to his eyes and on his lips, of the words that compose it.

Let us now return to our starting point: we said that the recitation of lessons was the most important of all the school work and that our opinion on this point was based upon objective and definite considerations. Let us recapitulate them.

The recitation of the lesson enables the teacher to determine in what measure the exposition that has preceded it has accomplished its purpose, and to fill up any gaps that it may have allowed to remain. The study, which prepares for the recitation, contributes

to the cultivation of a function of the brain which is at the basis of all instruction and is the first condition of its success: the memory. This study, moreover, compels the pupil to make the intense and prolonged effort necessary to the acquisition of the elements of the language, an effort which is the more effectual the more carefully its results are determined in the recitation that follows. Finally, thanks to the study and recitation of the lessons, the teacher produces a repetition of the elements of the language—evocation of the ideas, reading of the written words, lip-reading, and pronunciation—which may have a decisive influence upon the assimilation of these elements.

The complaint is sometimes made that the pupils do not work enough themselves, that they lack initiative, and that they forget too easily. By the properly conducted recitation of the lessons these evils are remedied. A careful determination of the results accomplished, with daily sanctions (praise and blame, rewards and punishments), shakes the apathy of the children more than all preachments and complaints; a well-directed repetition, under varied and intelligent forms, of the notions taught (ideas and words) is especially efficacious in engraving these notions in the memory of the children. Moreover, in the modes of recitation that we have described and recommended, the teacher sets the example; he himself reviews the elements of the lesson twice. This alternation between the work done under the direction of the teacher and the personal work of the pupil is well adapted to stimulate the child and to show him how he must go to work in order that his effort may be fruitful.

We have said above that the teacher must give an impulse to the youthful mind and exercise a profound influence upon all the faculties of the child. The reci-

tation, still more than the exposition, of the lessons affords the daily opportunity and means of fulfilling this task in an efficacious manner.

Consequently, my dear fellow teachers, let us be well persuaded that we can never devote too much time or care to the recitation of lessons.

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TALKS TO YOUNG TEACHERS OF SPEECH.*

I.—ERRORS IN THE CONSONANTAL SOUNDS.

THE intelligibility of speech depends more upon the correct production of its consonantal sounds than upon that of its vowels. This is no reason for accepting any low standard of perfection in the utterance of the vowels, but it is a very sound one for insisting upon as perfect as possible a formation of the consonantal elements.

Leaving voice out of consideration, the errors you are likely to meet with in the production of the consonantal sounds will, upon consideration, be found to spring from the following causes: placement, pressure, and release. 1. The incorrect placement of the articulatory organs. 2. An incorrect degree of pressure exerted by the articulating organ upon its point of contact in another organ. 3. The erroneous method of releasing the articulating organ.

Placement.—The correct utterance of any consonantal sound is impossible if the position assumed by the organs is incorrect. There is a *general* position for

*By permission, from the *Teacher of the Deaf*, vol. xiv, June and August, 1916.

the production of each of these sounds, but it must be remembered that this *general* position is variously modified by the nature of the vowel with which the particular sound is associated in words, and also in different individuals. For instance, the books tell you that the sound T is formed by placing the tip of the tongue on the bend of the upper gum, the breath, thus pent up, being forcibly emitted upon the release of the tongue. The books are right, for in a few words they can tell you no more. But it is not enough for you as a teacher of speech to the deaf. You are teaching *speech*, not merely the ability to utter each of its separate elements; and, this being so, you have all the time to develop it in such a way as to secure the easy blending of its component sounds into words and these words again into sentences. It is comparatively easy to develop the individual sounds, as such, but it is quite another matter to secure the proper synthesis of these into words. For instance, suppose you have led a pupil to produce a good K elementally, in which process he will have got used to one degree of opening of the mouth for its formation and that possibly a fairly open one. You will almost certainly find great difficulty in securing its proper blending with close vowels, as in "keep," "kit," etc. As a matter of fact, while we talk of a standard position for the sound of K, there is really no such thing. If you experiment a little with the sound, this will be clear. Say "cart" and "keep," and fix your attention upon the position assumed by the tongue for the formation of the sound of the K (C in "cart"). You will notice that, anticipating the vowel in each word, the K is formed more backward in the mouth in "cart" than in "kit." Similarly, if you say "art," "at," "it," and "eat," you will observe modifications of the general position for T as you proceed

from the open to the close vowels. In association with the vowels, from the open to the close, the tongue successively assumes a slightly more forward position and slightly enlarged areas of its surface are in contact with the gum. It is quite true that if these variations could be accurately measured they would be found to be very small, but they are sufficiently large to make all the difference in the quality of the speech you are endeavoring to establish. From all this, you may come to properly value what the "Speech Book" can tell you. It can indicate generally a *system*, but the interpretation of this into a *method* must depend upon you.

Such experiments as are indicated above clearly show that the old method of developing the consonantal sounds individually, without relation to the vowel company they must afterwards keep in words, was not the best way of establishing speech. Consonantal sounds are never used separately. They should therefore be developed from the start in association, as in words; and this from the point of view of the *intelligent* learning of speech by the child in addition to that of its more perfect production. It would be better perhaps if, in the earlier exercises, the sound you are developing is used *finally* in the words chosen as exercises, because this would in many cases allow of a plainer observation of the action of the tongue or lips in the complete sound.

The best guide to the child in his endeavor to set up the positions for speech is the teacher's mouth reflected in a mirror side by side with his own. He depends mainly upon what he sees, but, in addition, he may require the aid of what he can feel. Every suggestion made to him should be accurately related to his psychology. He can see in many of the consonantal sounds sufficient of the organs to be able to imitate their

required position, and, if necessary, he may feel the manipulation of the breath upon his hand. But you should not attempt, if it can be avoided, to place any organ in position for him. If you do, you will most likely create errors that otherwise would never have arisen, and, after all, unless he can see by means of the mirror into his own mouth, while, say, his tongue is put into position for him (and possibly his thoughts at the time would prevent this), his chances of remembering what is necessary are small. I remember, in my early days of speech teaching, attempting to do this for the children, but the results were far from satisfactory. The truth is that, whatever happens, the deaf child has to do his own speaking, and under the teacher's guidance he should, himself, learn the geography of his own speaking mouth and become able to place his organs rightly for the formation of its elements in association with their natural companions in words. In speech development, as in every other part of education, it is easily possible to do too much for the child.

Pressure.—There is no doubt that errors in position for the consonantal sounds create errors in the degree of pressure required for their proper emission. For instance, if you say "tea" as you would ordinarily say it, and then say it with the tongue applied more backward on the gum than you naturally do, you will notice that a greater pressure on the gum immediately becomes necessary, with the result that the sound is exaggerated. Again, an exaggerated mouth opening for the formation of any consonantal sound inevitably leads to an undue pressure of the articulating organ upon its point, or area, of contact with another organ; and this point, or area, of contact is further backwards in the mouth than is natural. This is the risk of the elemental method of developing the sounds of speech. Excessive

pressure of this kind is quite inconsistent with good speech, because organs which should remain flexible and capable of easy manipulation become rigid and more or less fixed. The effect of this upon the consequent speech is obvious. If you experiment with yourself, you will find that the greatest pressures required in natural speech are really very slight. Speaking would be a most exhaustive exercise unless this were so. Nothing is so conducive to accurate degrees of pressure in the formation of the consonantal sounds as the natural and proper placement of the organs used in producing them, for it is quite evident that under such conditions the degree of effort necessary is reduced to its most natural proportions. The wrong placement of the articulating organs inevitably means a greater resistance to be overcome and this demands a greater pressure than if the organs were properly adjusted. You can demonstrate all this for yourself. You may find a tendency in some children, even with their organs in the proper position to form a particular sound, to exert too great pressure of the tongue or lip upon its associated organ. You will notice this from the force of the sound and the faulty manner in which it blends with others in words. Here again your suggestions to the child must be suited to his psychology. He must see or feel what you wish him to understand. You may, as you think best, allow him to feel the impingement of breath upon his hand, or feel your lip or tongue, or notice the difference in force between your utterance of the sound and his in any suitable manner. Speech developed synthetically, as suggested in this talk, certainly reduces the risk of undue pressures in the formation of its elements, because the attention of the child is not specifically centered upon any particular and separate sound at one time. Exaggeration is

almost inseparable from the analytic method of establishing speech, to say nothing of the loss of its intellectual appeal in the stages where meaning is most required—the early ones.

Release.—Just as errors in pressure are induced by faulty positions for the sounds, so are erroneous methods of release favored by excessive pressures. You will find that the easy release of the tongue in T is impossible when it is too forcibly applied to the gum. Similarly, if the tongue is too strongly pressed towards the palate for SH, there must be a forcible and exaggerated dropping of the jaw when proceeding to the vowel, as in such words as "sharp," "ship," etc., instead of that easy progress which should be. You will notice that in all the consonantal sounds formed inside the mouth any excessive pressure of the tongue stiffens its whole body, destroying flexibility, and inducing a too backward action and the consequent exaggeration of the movements of the jaw. This necessarily militates against the perfection of speech, for not only does it disturb the quality of the individual sounds but it further prevents efficient combination into words and sentences.

It seems that by the incorrect placement of the organs for the formation of the consonantal sounds a vicious tendency is set up, proceeding through erroneous degrees of pressure, faulty methods of release, to inferior speech. The importance of accurate placement is therefore obvious, and it may be said that the degree of mouth opening for any consonantal sound is never greater than that required for the utterance of the vowel with which it is used. This you can readily demonstrate for yourself by experiment. You have seen the teacher of young children, in her anxiety to help them to get on quickly, speak to them in what has been called

"large print." It is easy to see that this defeats its own ends. The synthetic development of the consonantal sounds should be adopted to its fullest possible extent.

II.—THE SYNTHETIC METHOD.

The present talk should properly have preceded the one on "Errors in the Consonantal Sounds," but it may not be altogether out of place at this point.

If you study the procedure of the hearing child acquiring speech, you will see that he does so by the direct imitation, as wholes, of the words he hears, and not by any definite attention to their individual sounds. His attempts are, at first, imperfect, and continue so for some time; but time and repetition eventually result in satisfactory speech. Notice two things in this: on the psychic side intelligence plays its fullest part; and on the physical, imperfect speech precedes its perfect rendering. The child reproduces words whose meaning attracts him; and thus intelligence guides his efforts to speak. At no point in his progress would you forbid him to speak because his sounds were faultily formed.

You know that the usual method of cultivating speech in deaf children is the direct converse of this procedure of the hearing child. The teacher decomposes speech into its forty or so elemental sounds. Each is taught separately, and, as the child acquires them, they are joined together in combinations which may or may not be capable of representing meaning. Notice here again two things: on the psychic side the intellectual life of the child, the child himself, is more or less ignored; and on the physical, that there is necessarily a complete disregard of all those reciprocal modifications of organic position and movement due to

the influence of one sound upon another when naturally associated, as in words.

The hearing child's method of acquiring speech is synthetic in its nature, while, often, that adopted for the deaf child is the exact opposite, analytic. It follows that the latter, as compared with that of hearing children, is psychologically and physiologically an unnatural method, which can only be justified if it can be demonstrated that there is something in the condition of deafness that makes the natural mode of acquiring speech impossible.

You have therefore to decide for yourselves the question as to whether there is any sufficient reason that the deaf child should be led to speak by the adoption of methods, which, both from the psychic and the physical points of view, are clearly opposed to those of the hearing child, and which, being so, are unnatural.

What are the facts? The fundamental requirements for speech are intelligence seeking to express itself, and the possession of organs capable of vocally expressing that intelligence in words. In the hearing child these are connected by the active ear. This is the point at which the analogy of the deaf child with the hearing breaks down. He has the intelligence seeking to express itself and he has the organs for speech, but the stimulus of hearing is not for him. But the fact that the deaf child can be led to speak at all shows that a substitution, although by no means as perfect, can be made. Sight, seconded by touch, can take the place of hearing. The analytic method admits this, and the question is whether this substitution can go further and permit of the development of speech on the lines of the normal child.

Have you ever met with cases of deaf children nurtured in an atmosphere of speech before coming to

school? If so, you must have known some who attempted to speak. Their attempts are always on the lines of hearing children. They attempt, however faultily, words as wholes. This appears to indicate that, under natural conditions, deaf children themselves point out the method most suitable to them—the synthetic. Teachers, not deaf children, formulated the analytic, or elemental, method of developing speech, and they borrowed the idea from the phonetic systems applicable to the already naturally acquired speech of hearing people. Analytic methods have never grown out of children, either hearing or deaf. They have never had anything to do with the first acquirement of speech by children who hear, or by deaf children spontaneously imitating speech.

It is clear that synthetic methods, since they permit of *meaning* practically from the commencement of speech development, must from the psychic point of view be superior to analytic methods. If this be not so, you could improve the intellectual value of speech in hearing children by suppressing their natural method of acquiring it and putting the analytic in its place.

On the physical side the argument cannot be so briefly stated, yet when once it is appreciated it is equally clear. A child may be able to produce each of the elements of speech quite well and yet not become a good speaker. Professor Ferreri is correct when he says it is one thing to produce the separate sounds of a word and quite another to produce the word. Speech is not the assumption by the organs of a number of distinct positions or the performance of a series of unrelated movements. It is a synthesis of movements in which it is true that the organs assume certain generally recognizable positions for sounds; but which, owing to the reciprocal influence of sound on sound in perfect blending, materially affects these positions, so

that no absolutely exact standard for every sound can be set up. Perhaps this can be best illustrated by a reference to the cinematograph. You know that the film consists of a large number of individual photographs, which, if each were shown separately, even for the briefest moment, would not tell the story. But run off continuously on the reel, a number to the second, you get that synthesis of movement which makes the series one and the meaning evident. It is so with speaking.

If you accept all this, it must not be imagined that it is going to make the work of the teacher of speech easier, so far as his personal effort is concerned, or that it will make the teaching of articulation unnecessary. There are some who appear to think these things. They say they "do not believe in articulation," and in practice they carry synthetic methods farther with the deaf than they go with the normal, who err frequently and are corrected. The synthetic method necessarily allows error for a time, just as error has its day in the early speech efforts of hearing children; and the greater the effort of the deaf child to express himself in words, the greater the likelihood of error will be. But the speech so obtained, even if faulty, will be intelligent; for it will have meaning to the child, expressing, as it will, some activity of his mind. His errors must be tenderly dealt with and there should be no repression. It is easy to avoid all error by stifling all effort; but the child who progresses at all will blunder. Speech, even if perfectly formed, is of little value if it cannot be intelligently used. These blunders should be corrected. The erring T or K must be put right and in corrections of this kind it is necessary to enlist the entire interest and sympathy of the child. It may be that the particular failure is in a sound and recurs in all its combinations. In such

a case, say a faulty SH, take the child's main fault and deal with that, teach the correct formation, practise it in all its combinations in known words and phrases. Make the child understand that he has a victory to win and a reward to secure—the victory over his difficulty and the reward of being intelligible to yourself and his friends. If it should be necessary to exercise a sound individually, do it. Do not become the slave of your method; for, even with children who hear, whose acquirement of speech is always on synthetic principles, it is often found essential that a sound should be separated from its context in words in order to improve its utterance.

Make no mistake about the fact that speech teaching, the training of the voice, the correction of faults, improvement in emphasis and modulation, must go on, or the intelligibility of speech necessarily suffers. Experience has demonstrated this, whether the method adopted be analytic or synthetic, but the advantages of the latter are that intelligence and interest work with you to secure the success you desire and that the natural exercise of speech in all its normal physiological associations, both in words and sentences, assists you in securing the fluency and perfection of its utterance.

It is quite impossible to close this present talk without pointing out the fact that any attempt to introduce more natural methods of developing speech in deaf children inevitably emphasizes the extreme importance of commencing their training at the earliest possible age. To demand this is not, as a writer suggested some few years since, a confession of the failure of oral methods of teaching, but merely a reaffirmation of the scientific truth of all education, which, so far as speech is concerned, begins in the hearing child almost with life.

ARTHUR J. STORY,
Headmaster of the School at Stoke-on-Trent, England.

MR. JONES'S "ENGLISH FOR UPPER PRIMARY GRADES."*

MR. JONES had already given teachers of the deaf two good language books for intermediate and advanced grades (reviewed in the *Annals*, lix, 517, and lx, 334). The present volume, which is preliminary to these, aims at the same result, namely, to cultivate a taste for reading through reading and through the discussion, application, and reproduction of what has been read until the language has been mastered. For this purpose interesting original stories are narrated, together with a few selections from standard authors. There are questions on each story or selection adapted to make its purport clear, to assure the teacher that the meaning is fully understood by the class, to enlarge the pupil's vocabulary and make him familiar with new forms of language, and to give him practise in their use. It is an excellent book for the pupil to take home with him in vacation as well as to study in school; for it contains suggestions, not made directly but indirectly by example, of the ways and means by which parents and other relatives may render valuable assistance to their children in the acquisition of good idiomatic language.

The following selection illustrates this feature of the book:

DAVID AND HIS FATHER.

The Single family were at their breakfast table. Mr. Single sat at the head of the table, and Mrs. Single opposite him. Mary and John were on one side of the table between the father and mother, and David and Ella on the other side.

Mrs. Single served each one with a dish of strawberries.

Mr. Single served each with fried ham and eggs.

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*A Study of English for Upper Primary Grades. Book I. By J. W. JONES, Superintendent of the Ohio School for the Deaf. Columbus, Ohio. School Printing Press. 1916. 12 mo, pp. 163.

The servant girl brought them some hot biscuits and coffee. But the children drank milk in place of coffee.

David's plate was soon empty, and he said to his father "More," and pointed to the ham and eggs.

His father said, "Make a full sentence."

David: "Please give me more of the ham and eggs."

The father served him with more and said, "Do you like ham and eggs?"

David: "Yes, very much."

Father: "How many eggs can you eat?"

David held up his four fingers, and then said: "I can eat four eggs."

Father: "Do you get eggs at school?"

David: "Yes, breakfast. Ham, dinner."

Father: "Your sentence is not complete. Make it full."

David thought and said: "I sometimes eat eggs for breakfast. I eat ham for dinner."

Father: "Put *have* in place of 'eat.' It will look better."

David nodded his head and said: "We sometimes have eggs for breakfast and ham for dinner."

Father: "Are your eggs at school fried or boiled?"

David: "Boiled. Many pupils, fry, cannot." And he showed that it would be much work to fry so many eggs.

Father: "Your sentence is not good. It is too short."

David said slowly and thoughtfully: "There are many pupils at school. Cannot fry many eggs."

The father told him to use *the cook* before "cannot" and *so* before "many," and he would have a good sentence.

"The cook cannot fry so many eggs."

Father: "What do you drink at school?"

David: "I drink water and milk."

Mr. and Mrs. Single and the other children were talking while David ate his breakfast.

Quickly David said to his mother: "What did father say?"

His mother said: "He is going to town this morning to pay his taxes."

David said, "I do not know what *taxes* means."

Mother: "It is money which people who own land, houses, horses, cattle, hogs, and other property must pay each year to the county treasurer. You will understand it when you are older, and can read better."

David: "How will father go to town?"

Mother: "In the carriage. Your sisters, Mary and Ella, are going with him."

David: "May I go?"

Mother: "Ask your father."

David: "Father, may I go to town with you and sisters in the carriage?"

Father: "Yes, we shall be glad to have you go with us. We shall have plenty of room in the carriage for you."

David returned to his mother and said: "Happy, clothes, change."

His mother looked at him, and he said: "I am very happy. May I change my clothes?"

His mother looked him over and said: "Your hands, neck, and ears are clean, and you can put on your new blue suit. I will help you get ready."

The book closes with some "subjects and situations for original composition work." The printing does credit to the printery of the Ohio School, and there are attractive illustrations.

THE PREPARATION REQUIRED OF TEACHERS IN GREAT BRITAIN.

THE following examination paper, given by "The Joint Examination Board of Teachers of the Deaf" to candidates for teachers' certificates at the examination held in London during five days last July, for which we are indebted to Mr. A. J. Story, Head Master of the Stoke-on-Trent School, is interesting as showing the preparation now required of teachers of the deaf in Great Britain.

The time for each paper was 3 hours. Candidates were recommended to give concise answers.

Three questions only in each section were to be answered and question 1 in each was compulsory.

HISTORY OF THE EDUCATION OF THE DEAF.

Section A.

1. Take any one institution or school with which you are acquainted and compare and contrast its present position, educationally, with its position previous to 1893. (20 marks.)
2. Indicate the course of events which led up to the foundation of the education of the deaf in America. (15 marks.)
3. Describe the method of classification of the deaf as practised in Denmark. (15 marks.)
4. Write a short account of the work and influence of Thomas Braidwood in relation to the education of the deaf. (15 marks.)

Section B.

1. Trace briefly the evolution of methods of education of the deaf from De l'Epée to the present time. (20 marks.)
2. What efforts have been made, or are being made, at home and abroad towards the education of the deaf at an early age? (15 marks.)
3. Outline the life and work of the Rev. Thomas Arnold, so far as it relates to the education of the deaf. (15 marks.)
4. State what you know about the International Conference held in Edinburgh, 1907. (15 marks.)

ANATOMY AND PHYSIOLOGY.

Section A.

1. Describe the internal ear. What do you conceive to be its functions? (20 marks.)
2. When you look through a high-powered lens at a drop of blood, describe what you see. What are the chief elements in blood? (15 marks.)
3. Describe a nerve fiber and a nerve cell. Classify nerves according to their function. (15 marks.)
4. Name, and as far as possible locate, in the brain the "cortical centers" involved in the reception and production of language. (15 marks.)

Section B.

1. Explain briefly by what method articulate speech is produced. (20 marks.)
2. Enumerate the most important causes of deafness in children, stating how they act. (15 marks.)

3. What do you understand by the respiratory function of the nose? How may it be interfered with? (15 marks.)

4. What is the "pyramidal tract?" What function does it serve? (15 marks.)

PRINCIPLES OF EDUCATION.

Section A.

1. "Knowledge gained in a ready-made state of abstraction is apt to prove worthless." Discuss this statement. If you were called upon to give a lesson on "Aeroplanes," how would you apply the principle underlying the statement? (20 marks.)

2. "The Will must be reached through the Mind and Heart." Discuss this, showing how you understand the relation of Action to Thought and Feeling. (15 marks.)

3. What methods and illustrations would you employ for impressing on your pupils the duty of kindness to animals? (15 marks.)

4. State briefly the principles guiding you in your choice of subjects and division of the time at disposal, in making out a time table for a class about twelve years of age. (15 marks.)

Section B.

1. Problems in Arithmetic present greater difficulties to our pupils than corresponding rote work. Give the causes for this, and illustrate by an example for children aged 12 the steps you would take to overcome these apparent difficulties. (20 marks.)

2. Show any co-ordination you would suggest between manual occupation and the following subjects: Geography, History, Elementary Science.

3. What value do you place on the ability of the pupils to ask questions? Should you attach importance to the subject, illustrate your remarks by a lesson prepared to encourage this habit. (15 marks.)

4. Discuss the value of Poetry in a language scheme. Assuming 5 as the age of admission, indicate suitable examples for pupils 8 years old and 15 years old, stating the use you would make of them in accordance with your views. (15 marks.)

METHODS OF TEACHING LANGUAGE TO THE DEAF.

Section A.

1. "Language is the expression of thought in any way—articulate or inarticulate—conventional or unconventional." Discuss this statement with reference to the deaf child. (20 marks.)

2. From the point of view of development of language, what do you consider the value of: (*a*) story-books? (*b*) story-telling? (15 marks.)

3. Compare carefully your methods of language teaching in the cases of: (*a*) a deaf child coming to school at 5 years of age; (*b*) a deaf child not coming to school until he is 8 or 9 years of age. (15 marks.)

4. What relation do you expect between the spoken and written language of a deaf child? (15 marks.)

SECTION B.

1. Explain what you understand by advanced language in relation to deaf children, when and how would you introduce such to the pupils, and what means you would take to encourage them to use it? (20 marks.)

2. Certain authorities maintain that deaf children should be taught to answer questions in full, others that they should be allowed to give short answers. What is your opinion regarding this question? Indicate in a lesson how both ways might be used to advantage. (15 marks.)

3. Give a sample of a short story you would expect pupils four years at school to read, and write out the questions you would employ to ascertain how far it had been understood by them. (15 marks.)

4. In the early stages of language teaching what aids would you give your pupils to assist them in constructing sentences? Give some examples of your methods.

THE MECHANISM OF SPEECH AND THE METHOD OF TEACHING ARTICULATION.

SECTION A.

1. Draw up for teaching purposes a suggestive gradation of the elements of speech. Give your reason for such gradation. Explain concisely. (20 marks.)

2. From the following sentence select the two most difficult consonants and the two most difficult vowel sounds, then give concisely the mechanism of each. "We wait for next spring." (15 marks.)

3. Discuss: (*a*) approximate speech; (*b*) analytic *v.* synthetic means of speech development. (15 marks.)

4. What in your opinion are the essentials of good speech-reading, and how would you seek to establish these essentials? (15 marks.)

SECTION B.

1. How would you teach the following sounds: K, CH, I (i-e, igh) ORE (fore)? (20 marks.)

2. Mention the important factors in the intelligibility of the speech of a deaf child. What means would you adopt to test this "intelligibility" from time to time? (15 marks.)

3. How do you account for the high-pitched voice sometimes used by deaf children? How would you remedy it? (15 marks.)

4. The articulation of deaf pupils frequently deteriorates as they advance in language. Why is this and how would you endeavor to counteract it? (15 marks.)

SCHOOL ITEMS.

Arkansas School.—Miss Sarah Frances Wade, a graduate of the School, and for two years a student at Gallaudet College, has been added to the corps of teachers, and Mr. Dean Horn, a graduate of the School, and for one year a student at Gallaudet, has been given charge of the printery.

Colorado School.—Miss Alice M. Alcorn has resigned to teach in the Georgia School. Mrs. Mabel R. Mayer has also resigned, and Miss Mary McD. Lyne is taking a rest from work. Their places are filled by Miss Stella Stewart and Miss Margaret E. Compton, from the Pennsylvania Institution, and Miss Bertha Thomas, from the North Carolina School at Morganton. Mr. Frank R. Foster has been appointed instructor in printing, to relieve Mr. H. M. Harbert, who has served the School in this capacity faithfully and successfully for thirty-eight years, of the more active part of his work. A new linotype has been installed.

Florida School.—Miss Ola M. Lowrey, Miss Edna Kavanaugh, and Miss Sadie Stovall resigned at the close of the last school term. Their positions are filled by Miss Mary L. Musser, of Lancaster, Pennsylvania; Miss Zella Miller, trained at the Indiana School; and Miss Nell Jane Porth, of Marinette, Wisconsin.

A hospital and an administration building for the Colored Department have been erected. The hospital cost about $10,000 and the other building about $20,000.

Illinois School.—Mr. William I. Tilton, a valued teacher, died October 9, 1916, aged forty-eight, after a long illness. He was a graduate of the Illinois School and of Gallaudet College, and taught in the Illinois School for twenty-three years. He was earnest and faithful in his work and active in promoting the welfare of the adult deaf. He was not only a remarkable lip-reader but an unusually clear and graceful sign-maker. No one who was present at the closing exercises of the Staunton Convention two years ago will forget his beautiful rendition of "Mizpah."

Iowa School.—Miss Irene V. W. Boshler retired at the close of the last school year. Her successor is Miss Ella Warren, of Stanford, Kentucky. Miss Katherine Moore, of Fulton, Missouri, and Miss Florence Stickney, of Tawas City, Michigan, are appointed cadets.

Jews' Home.—Mr. S. Kutner, Principal of the Jews' Home, London, died August 12, 1916, after a surgical operation. Mr. Kutner was trained by Mr. S. Schöntheil and taught for several years in the Manchester Schools. He has been Principal of the Jews' Home since 1894. He was the author of several text-books, an occasional contributor to the *Annals*, and a prominent member of the profession in England.

Michigan School.—Miss Dorothea Eggert, Miss Cora Woods, Miss Mona Cooley, Miss Elizabeth MacN. Taylor, Mrs. Carrie W. Earle, Mr. Harold R. House, Mr. George F. Tripp, and Miss Vera De Long have resigned and are succeeded by Miss Margaret Cavanaugh, Miss Rosamond Wright, and Miss Margaret Chisholm, oral teachers; Mr. John R. Russell, instructor in printing; Mr. Alfred C. Lamb, instructor in wood-working; Miss Amelia Brooks, assistant in domestic science; and Miss Helen Denman, assistant in domestic arts.

Missouri School.—Miss Nettie Christy, who has taught in the Kansas, Minnesota, and California schools, has been added to the corps of instructors.

Ontario School.—The Müller-Walle lip-reading method has been introduced into the School by Miss L. Deannard, who learned it last summer from Miss Martha E. Bruhn. It is hoped it may be utilized in the instruction of deaf soldiers in vacation classes next summer.

Texas School.—Miss Janie Oliphant has resigned to be married; her successor is Mrs. J. B. Rhodes, who formerly taught in this School. Miss Mary Woolslayer, a graduate of the Utah School and of the University of Utah, is appointed physical director for girls.

Wisconsin School.—Miss Gertrude La Barre, a graduate of the Milwaukee Normal School, where she specialized in the training school for teachers of the deaf, has been appointed teacher in the place of the late Miss Almira I. Hobart. Mr. E. W. Walker, whose resignation as Superintendent was mentioned in the last number of the *Annals*, has been appointed Superintendent and Manager of the Masonic Home at Dousman, Wisconsin.

MISCELLANEOUS.

The Catholic Conference.—A meeting of the Catholic Deaf-Mute Conference was held in Baltimore, Maryland, June 25 to 29, 1916, in connection with the Convention of the Catholic Educational Association. The following papers were read: "The Tenth Meeting of the Conference," by Rev. F. A. Moeller, President; "Opportunities of the Deaf in the Archdiocese of Baltimore," by Sister Stephen Harding, M. H., of St. Francis Xavier's School; "A Visit to Schools for the Deaf in the United States and Canada," by Mother Borgia, of St. Louis, Missouri; and "Oral Work Among the Deaf," by Miss Annie L. Townsend, of St. Francis Xavier's School. There were also a letter from a Dominican sister concerning the Waratah, Australia, School; an illustrated lecture on "The Silent World," by Rev. Eugene Gehl, of St. John's Institute; and an address by Mr. James F. Donnelly, editor of the *Catholic Deaf-Mute*. All the papers were discussed by members of the Conference. Among the resolutions adopted was the following with reference to methods of instruction:

"*Resolved*, that while the 'Purely Oral Method' of instruction, if universally successful, would be of special service to Catholic priests in dealing with the deaf, since they must be gifted with hearing and speech and few are familiar with the sign language, nevertheless, considering results of the 'Purely Oral Method' during the past decade and more, the Catholic Deaf-Mute Conference, while heartily encouraging speech and lip-reading for all who can profit by it, particularly for semi-mutes who have lost their hearing after obtaining some familiarity with speech, declares itself in favor of the 'Combined System,' which

gives to all an opportunity of learning speech and lip-reading, while it concedes to the natural language of the deaf, the sign-language, its proper function in the education of the deaf.

"Accordingly, the Catholic Deaf-Mute Conference declares itself in favor of the almost unanimous vote of the educated deaf of the world, as expressed at the International Congress of the Deaf held in Paris in 1912, and the unanimous vote repeatedly expressed at national and fraternal meetings of the deaf."

Rev. F. A. Moeller, S. J., was re-elected President of the Conference, and Rev. H. J. Waldaus, of St. Rita School, Secretary.

Deaf Factory Employees.—The *Deaf Mutes' Journal* gives the following information concerning the large number of deaf workers that are employed in some factories and the high wages they receive:

"The Goodyear Tire and Rubber Company, of Akron, Ohio, has about one-hundred-and-fifty deaf men on its payroll, and they receive from $3 to $5 per day.

"The Ford Automobile Company, at Detroit, employs more than one hundred deaf workers, and pays them from $5 to $7 a day.

"The Buick Automobile Company, of Flint, Michigan, gives work to seventy-five deaf-mutes and pays them from $2.50 to $4 a day.

"At the Brunswick-Balke-Collender Billiard Table Manufactory, in Dubuque, Iowa, fifteen or more deaf people earn and are paid from $3 to $5 a day."

A Resourceful Student.—The *Michigan Mirror*, referring to President Hall's statement that a hundred dollars will pay most of the necessary expenses of a student at Gallaudet College for a year, relates the following experience of a graduate of the Michigan School:

"A graduate of our school arrived at Gallaudet one September with only fifteen cents in his pocket, and got through that year on forty-five dollars; all of which, with the exception of the fifteen cents, he made at college. His yearly expenses, including railroad fare to and from Michigan, never exceeded seventy-five dollars. Besides working his way through college, he had time to take part in all athletic sports and keep up his studies so that he was never conditioned. When he was graduated he had ninety-six dollars which he earned at the college during the senior year besides his expenses."

The Re-education of Deaf Soldiers.—We mentioned in the last number of the *Annals* the instruction given to deaf soldiers in the National Institution at Paris. The *Echo de Famille* for August-September says a similar work is carried on in a hospital for deaf soldiers at Bordeaux, and at the schools for the deaf at Nantes and Orleans.

The William Terry Touch Alphabet.—Mr. Harold T. Clark, whose address is 1201 Leader-News Building, Cleveland, Ohio, publishes in an octavo pamphlet of twelve pages, "The William Terry Touch Alphabet for Use by the Deaf and by the Deaf-and-Blind, with a Brief Sketch of Dr. William Terry During Fifteen Years of Total Deafness and Blindness." The "touch" or "glove" alphabet invented by Dr. Terry, "who lived for many years at Ansonia, Connecticut, and died there in 1908 in his eighty-sixth year, after having been totally deaf and blind for the last fifteen years of his life," is identical in principle with the alphabet presented by George Dalgarno in his "Didascalocophus" 236 years ago (*Annals*, ix, 14–64), but his arrangement of the letters differs both from Dalgarno's and from Dr. Alexander Graham Bell's (*Annals*, xxviii, 133).

Dr. Terry, after being engaged in active practice as a physician and surgeon for nearly fifty years, became totally deaf and blind. He at once learned to read and write the American Braille and invented the touch alphabet. With respect to the latter he said at the age of eighty-two:

"I found myself a dozen years ago in what the wonderful Miss Helen Keller calls the valley of two-fold solitude, totally deaf and blind. I could converse with no one, and had to invent a system of touch alphabet for the hand, which, by the use of a marked glove, has enabled me to enjoy the benefits of conversation. I would that the system might benefit many others as it has me. No other system would have served me so well. By it I have been kept well informed on current events and in sympathy with the rapidly advanced and ever advancing philanthropy and Christianity of our blessed times."

The Zuñi Cure for Deafness.—Elsie Clews Parsons, giving in *Science* for September 29, 1916, a description of the use of magical inoculation among the Zuñi Indians, says that cases of deafness at birth are unknown in that tribe. "If a child becomes deaf, it is because during her pregnancy its mother stole. To cure the child she must steal again and, burning the object stolen, put its ashes into the ears of the child."

THE TWENTY-FIRST MEETING OF THE CONVENTION.

128 WOODLAND ST., HARTFORD, CONN.,
October 23, 1916.

TO THE MEMBERS OF THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF.

DEAR FRIENDS:

At the last meeting of the Convention held at Staunton, Virginia, the authorities of the American School for the Deaf at Hartford extended a most cordial invitation to the Convention to hold its 1917 meeting in the first school for the deaf established in America.

It has seemed to the Executive Committee most fitting that the Twenty-First Meeting of the Convention of American Instructors of the Deaf should be held in the school established one hundred years ago and should join with other organizations, as far as possible, in celebrating this anniversary.

The days of the meeting will be from June 29 to July 3, inclusive. The programme for the meeting is being prepared and will be published in the *American Annals of the Deaf* as soon as possible.

On July 4 the authorities of the school have invited the National Association of the Deaf and the members of the Convention to join in a special celebration of the one hundredth anniversary of the foundation of public instruction of the deaf in America.

The Committee urges a large attendance at the regular meeting and at this special celebration as well.

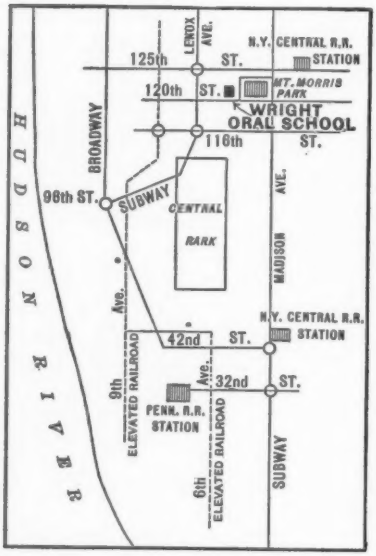
Cordially yours,

E. M. GALLAUDET,
President.

ADVERTISEMENTS.

THE WRIGHT ORAL SCHOOL

Numbers 1, 2, 3, and 4 Mount Morris Park, West, New York City.



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Established in 1894 by its present Principal, John Dutton Wright, M. A., author of "What the Mother of a Deaf Child Ought to Know," a little handbook telling parents how to utilize at home the hitherto wasted years of a deaf child's life before school age is reached.

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For Third-Year Classes. Illustrated in color. This book contains Stories and Language-Drill Exercises. 70 cents each ($7.50 per dozen).

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Orders may be sent to the author, Cresheim Hall, Pennsylvania Institution for the Deaf, Mt. Airy, Philadelphia, Pennsylvania.

Language-Drill Stories
The Question Book } Ready October 1st.

BUREAU OF INFORMATION.

The Convention of American Instructors of the Deaf maintains a free Bureau of Information for the use of superintendents and principals seeking the services of teachers and officers, and for teachers, matrons, and supervisors desiring positions.

The Bureau keeps on file the names of all applicants for positions in schools for the deaf, together with information as to length of service, work desired, salary expected, etc. It endeavors to give prompt and accurate replies to all requests for information.

All are invited to make use of this free Bureau.

FRANK M. DRIGGS, *Secretary,*
Utah School for the Deaf,
Ogden, Utah.

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Hartford, Conn.

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